CDX-6500

SERVICE MANUAL

E Model

Model Name Using Similar Mechanism	CDX-4180
CD Drive Mechanism Type	MG-363X-121
Optical Pick-up Name	KSS-521A

SPECIFICATIONS

CD player section

System	Compact disc digital audio system
Signal-to-noise ratio	90 dB
Frequency response	10 – 20,000 Hz
Wow and flutter	Below measurable limit

Tuner section

FM

Tuning range	FM tuning interval: 50 kHz/200 kHz switchable 87.5 – 108.0 MHz (at 50 kHz step) 87.5 – 107.9 MHz (at 200 kHz step)
Aerial terminal	External aerial connector
Intermediate frequency	10.7 MHz
Usable sensitivity	8 dBf
Selectivity	75 dB at 400 kHz
Signal-to-noise ratio	65 dB (stereo), 68 dB (mono)
Harmonic distortion at 1 kHz	0.7 % (stereo), 0.4 % (mono)
Separation	35 dB at 1 kHz
Frequency response	30 – 15,000 Hz

AM

Tuning range	AM tuning interval : 9 kHz/10 kHz switchable 531 – 1,602 kHz (at 9 kHz step) 530 – 1,710 kHz (at 10 kHz step)
Aerial terminal	External aerial connector
Intermediate frequency	10.71 MHz/450 kHz
Sensitivity	30 µV

Power amplifier section

Outputs	Speaker outputs (sure seal connectors)
Speaker impedance	4 – 8 ohms
Maximum power output	40 W × 4 (at 4 ohms)

General

Outputs	Power aerial relay control Telephone ATT control lead
Tone controls	Bass ±10 dB at 100 Hz Treble ±10 dB at 10 kHz
Power requirements	12 V DC car battery (negative earth)
Dimensions	Approx. 178 × 50 × 185 mm (w/h/d)
Mounting dimensions	Approx. 182 × 53 × 162 mm (w/h/d)
Mass	Approx. 1.2 kg
Supplied accessories	Card remote commander (1) Parts for installation and connections (1 set) Front panel case (1)

Design and specifications are subject to change without notice.

FM/AM COMPACT DISC PLAYER

MICROFILM

SONY®

SERVICE NOTE

CAUTION

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

Notes on Chip Component Replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

The laser diode in the optical pick-up block may suffer electrostatic breakdown because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.
During repair, pay attention to electrostatic breakdown and also use the procedure in the printed matter which is included in the repair parts.
The flexible board is easily damaged and should be handled with care.

NOTES ON LASER DIODE EMISSION CHECK

The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe from more than 30 cm away from the objective lens.

NOTES ON PICK-UP FLEXIBLE BOARD

The pick-up flexible board in this set is secured to the optical pick-up with an adhesive tape. Once the tape is removed, an adhering force becomes weak, and it cannot be reused.
Therefore, if the optical pick-up is replaced, replace also the pick-up flexible board with a new one.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

TABLE OF CONTENTS

1. GENERAL

Location of Controls 3
Getting Started 4
CD Player 4
Radio 5
Other Functions 6
Installation 7
Connections 8

2. DISASSEMBLY

2-1. Cover ASSY 10
2-2. Front Panel ASSY 10
2-3. Display Board 11
2-4. CD Mechanism Block 11
2-5. Main Board 12
2-6. Heat Sink 12
2-7. Chassis (T) Sub ASSY 13
2-8. Lever ASSY 13
2-9. Servo Board 14
2-10. Roller ASSY 14
2-11. Chassis (OP) (O/S) ASSY 15
2-12. Optical Pick-up Block 15

3. ELECTRICAL ADJUSTMENTS

Tuner Section 16
CD Section 18

4. DIAGRAMS

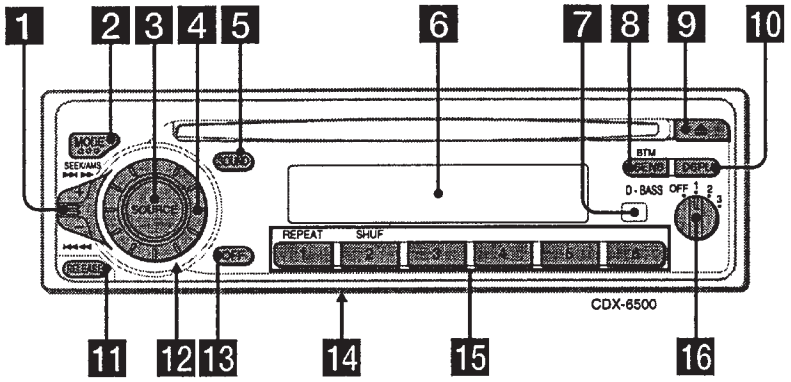
4-1. IC Pin Description 19
4-2. Circuit Boards Location 21
4-3. Printed Wiring Boards –CD Mechanism Section– 23
4-4. Schematic Diagram –CD Mechanism Section– 25
4-5. Printed Wiring Board –Display Section– 27
4-6. Schematic Diagram –Display Section– 29
4-7. Printed Wiring Board –Main Section– 31
4-8. Schematic Diagram –Main Section (1/2)– 33
4-9. Schematic Diagram –Main Section (2/2)– 35

5. EXPLODED VIEWS

5-1. Chassis Section 40
5-2. Front Panel Section 41
5-3. CD Mechanism Section (1) 42
5-4. CD Mechanism Section (2) 43
5-5. CD Mechanism Section (3) 44

6. ELECTRICAL PARTS LIST 45

Location of controls



Refer to the pages for details.

1 **SEEK/AMS (seek/Automatic Music Sensor/manual search) control 8, 9**

2 **MODE (band select) button 8, 9**

3 **SOURCE (source select) button 7, 8, 9**

4 **Dial (volume/bass/treble/left-right/front-rear control) 7, 10**

5 **SOUND button 7, 10**

6 **Display window**

7 **Receptor for the supplied card remote commander (CDX-6500 only)**

8 **SENS/BTM (sensitivity adjust/Best Tuning Memory) button 8, 9**

9 **⏏ (eject) button 7**

10 **DSPL (display mode change/time set) button 7, 9**

11 **RELEASE (front panel release) button 6, 12**

12 **Reset button (located on the front side of the unit behind the front panel) 6**

13 **OFF button 6, 7, 10**

14 **Frequency Select switch (located on the bottom of the unit)**
See "Frequency Select Switch" in the Installation/Connections manual.

15 **During radio reception:**

Number buttons 9

During CD playback:

① **REPEAT button 8**

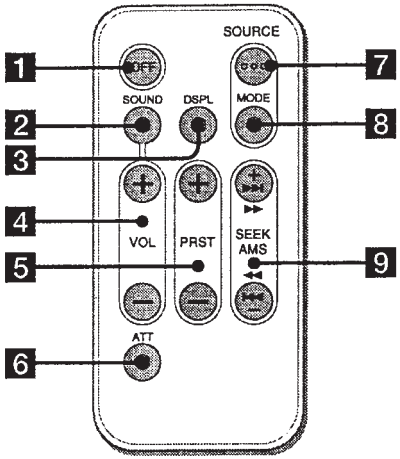
② **SHUF button 8**

16 **D-BASS control 10**

When the positions of switch 14 have been changed, be sure to press the reset button after connecting power.

The illustration of the front panel in this manual is of the CDX-6500.

Card remote commander



The corresponding buttons of the card remote commander control the same functions as those on this unit.

1 **OFF button**

2 **SOUND button**

3 **DSPL button**

4 **VOL button**

5 **PRST button**
You cannot perform manual search or manual tuning with the card remote commander.

6 **ATT button**

7 **SOURCE button**

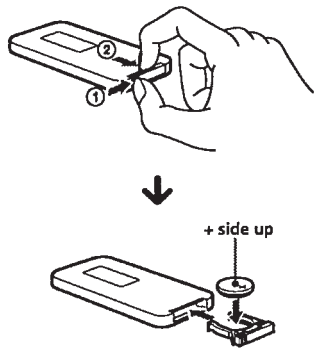
8 **MODE button**

9 **SEEK/AMS button**

When the POWER SELECT switch is set to the Ⓑ position, the unit cannot be operated with the card remote commander unless (SOURCE) on the unit is pressed or a cassette is inserted to activate the unit first.

Replacing the lithium battery

When the battery becomes weak, the range of the card remote commander becomes shorter. Replace the battery with a new CR2025 lithium battery.



Notes on lithium battery

- Keep the lithium battery out of the reach of children. Should the battery be swallowed, immediately consult a doctor.
- Wipe the battery with a dry cloth to assure a good contact.
- Be sure to observe the correct polarity when installing the battery.
- Do not hold the battery with metallic tweezers, otherwise a short-circuit may occur.

WARNING

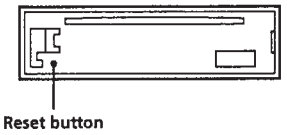
The battery may explode if mistreated.
Do not recharge, disassemble, or dispose of in fire.

This section extracted from US, Canadian model's instruction manual.

Getting Started

Resetting the unit

Before operating the unit for the first time or after replacing the car battery, you must reset the unit.
Remove the front panel and press the reset button with a pointed object, such as a ballpoint pen.



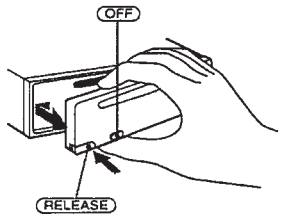
Notes
- *Pressing the reset button will erase the clock setting and some memorized programme and memory functions.*
- *When you connect the power supply cord to the unit or reset the unit, wait for about 10 seconds before you insert a disc. If you insert a disc within these 10 seconds, the unit will not be reset, and you will have to press the reset button again.*

Detaching the front panel

You can detach the front panel of this unit to protect the unit from being stolen.

1 **Press (OFF).**

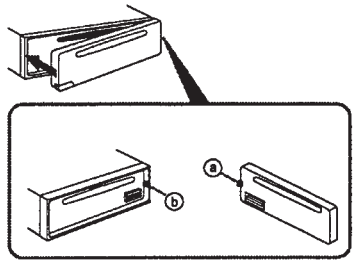
2 **Press (RELEASE), then slide the front panel a little to the left, and pull it off towards you.**



Notes
- *Be sure not to drop the panel when detaching it from the unit.*
- *If you detach the panel while the unit is still turned on, the power will turn off automatically to prevent the speakers from being damaged.*
- *When carrying the front panel with you, use the supplied front panel case.*

Attaching the front panel

Attach part ⓐ of the front panel to part ⓑ of the unit as illustrated, and push the left side into position until it clicks.



Notes
- *Be sure not to attach the front panel upside down.*
- *Do not press the front panel too hard against the unit when attaching it.*
- *Do not press too hard or put excessive pressure on the display window of the front panel.*
- *Do not expose the front panel to direct sunlight or heat sources such as hot air ducts, and do not leave it in a humid place. Never leave it on the dashboard of a car parked in direct sunlight or where there may be a considerable rise in temperature.*

Caution alarm

If you turn the ignition key switch to the OFF position without removing the front panel, the caution alarm will beep for a few seconds.
If you connect an optional power amplifier and do not use the built-in amplifier, the beep sound will be deactivated.

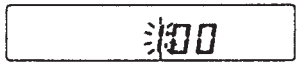
Setting the clock

The clock has a 12-hour digital indication.

Example: To set the clock to 10:08

1 **Press (DSPL) during operation.**
If the POWER SELECT function is set to "ON," go to step 2. If it is set to "OFF," set to "ON" (page 10).

2 **Press (DSPL) for two seconds.**



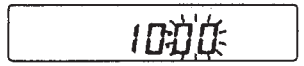
The hour indication flashes.

❶ Set the hour.

To go backward

To go forward

❷ Press (SOUND).



The minute indication flashes.

❸ Set the minute.

To go backward

To go forward

3 **Press (DSPL).**

The clock starts.

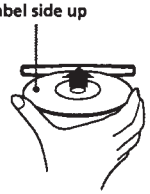
Note
If the car has no accessory position on the ignition key switch, the clock cannot be set unless the power is turned on. Set the clock after you have turned on the radio, or started CD playback.

CD Player

Listening to a CD

Insert the CD.
Playback starts automatically.

Label side up



If a CD is already inserted, press (SOURCE) repeatedly until "CD" appears.

Elapsed playing time

Note
To play back an 8 cm CD, use the optional Sony compact disc single adapter (CSA-8).

To	Press
Stop playback	⏏ or (OFF)
Eject the CD	⏏

Changing the display item

Each time you press (DSPL) during CD playback, the item changes as follows:

Elapsed playing time → Track number → Clock → MOTION DISPLAY* → (back to Elapsed playing time)

** All the above items are scrolled in the display one by one in order.*

Locating a specific track
— Automatic Music Sensor (AMS)

During playback, push the SEEK/AMS control up or down and release for each track you want to skip.

To locate succeeding tracks

To locate preceding tracks

Locating a specific point in a track
— Manual Search

During playback, push the SEEK/AMS control up or down and hold. Release when you have found the desired point.

To search forward

To search backward

Note
If "L L L L" or " ⅂ ⅂ ⅂ ⅂" appears in the display, you have reached the beginning or the end of the disc and you cannot go any further.

Playing a CD in various modes

Playing tracks repeatedly
— Repeat Play

Press (1) during playback.
"REP" appears in the display.

When the current track is over, it will play again from the beginning.

To cancel this mode, press again.

Playing tracks in random order
— Shuffle Play

Press (2) during playback.
"SHUF" appears in the display.

To cancel this mode, press again.

Radio

Memorizing stations automatically
— Best Tuning Memory (BTM)

This unit selects the stations with the strongest signals and memorizes them in the order of their frequencies. You can store up to 6 stations on each band (FM I, FM II, FM III, and AM).

Caution
When tuning in stations while driving, use Best Tuning Memory to prevent accidents.

1 Press (SOURCE) repeatedly to select the tuner.
Each time you press (SOURCE), the mode changes as follows:
CD ⟷ TUNER

2 Press (MODE) repeatedly to select the band.
Each time you press (MODE), the band changes as follows:

→ FM I → FM II → FM III → AM →

3 Press (SENS/BTM) for two seconds.
The unit stores stations in the order of their frequencies on the number buttons.
A beep sounds when the setting is stored.

Notes
- *The unit does not store stations with weak signals. If only a few stations can be received, some number buttons will retain their former setting.*
- *When a number is indicated in the display, the unit starts storing stations from the one currently displayed.*
- *If a CD is not in the unit, only the tuner band appears even if you press (SOURCE).*

Memorizing only the desired stations

You can store up to 6 stations on each band (a total of 18 for FM I, FM II, and FM III, and 6 for AM) in the order of your choice.

1 Press (SOURCE) repeatedly to select the tuner.

2 Press (MODE) repeatedly to select the band.

3 Push the SEEK/AMS control up or down to tune in the station that you want to store on the number button.

4 Press and hold the desired number button (1 to 6) until "MEM" appears.
The number button indication appears in the display.

Note
If you try to store another station on the same number button, the previously stored station will be erased.

Receiving the memorized stations

1 Press (SOURCE) repeatedly to select the tuner.

2 Press (MODE) repeatedly to select the band.

3 Press the number button (1 to 6) on which the desired station is stored.

If you cannot tune in a preset station

Push and release the SEEK/AMS control up or down to search for the station (automatic tuning).
Scanning stops when the unit receives a station. Push the SEEK/AMS control up or down repeatedly until the desired station is received.

Note
If the automatic tuning stops too frequently, press (SENS/BTM) repeatedly until "LCL" (local seek mode) is displayed. Only the stations with relatively strong signals will be tuned in.

Tip
If you know the frequency of the station you want to listen to push the SEEK/AMS control up or down and hold until the desired frequency appears (manual tuning).

If FM stereo reception is poor
— Monaural Mode

Press (SENS/BTM) repeatedly until "MONO" appears.
The sound improves, but becomes monaural ("ST" disappears).

To return to the normal mode, press again until "MONO" disappears.

Changing the display item
Each time you press (DSPL), the items changes as follows:

→ Frequency → Clock →
→ MOTION DISPLAY* ←

** All the above items are scrolled in the display one by one in order.*

Other Functions

Adjusting the sound characteristics

You can adjust the bass, treble, balance, and fader. You can store the bass and treble levels.

1 Select the item you want to adjust by pressing (SOUND) repeatedly.

BAS (bass) → TRE (treble) → BAL (left-right) → FAD (front-rear) → VOL (volume)

2 Adjust the selected item by rotating the dial.

Adjust within three seconds after selecting the item. (After three seconds, the dial function reverts to volume control.)

Turning on the clock display — POWER SELECT function

Only for cars with an accessory position on the ignition key switch

To turn the Power Select function ON

Press (OFF) while pressing (SOUND).

The Power Select function ties the clock display power to the accessory position on the ignition key switch.
To avoid battery wear, the clock is not displayed while the unit is initializing.

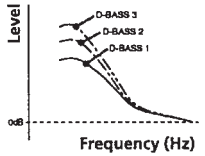
Note

You cannot operate this function with the supplied wireless remote (CDX-6500 only).

Changing the sound and beep tone

Boosting the bass sound — D-bass

You can enjoy a clear and powerful bass sound.
The D-bass function boosts the low frequency signal with a sharper curve than conventional bass boost.
You can hear the bass line more clearly even while the vocal remains the same volume. You can emphasize and adjust the bass sound easily with the D-BASS control. This is similar in effect to an optional subwoofer system.



Adjusting the bass curve

Turn the D-BASS control to adjust the bass level (1, 2, or 3).

"D-BASS" appears in the display.

To cancel, turn the control to OFF.

Note

If the bass sound becomes distorted, adjust the D-BASS control or volume.

Cancel the beep sound

Press (6) while pressing (SOUND).

To obtain the beep sound again, press these buttons again.

Note

If you connect an optional power amplifier and do not use the built-in amplifier, the beep sound will be disabled.

Installation

Precautions

- Do not tamper with the four holes on the upper surface of the unit. They are for tuner adjustments to be made only by service technicians.
- Choose the installation location carefully so the unit will not interfere with normal driving.
- Avoid installing the unit in areas subject to dust, dirt, excessive vibration, or high temperatures, such as in direct sunlight or near heater duct.
- Use only the supplied mounting hardware for a safe and secure installation.

Mounting angle adjustment

Adjust the mounting angle to less than 60°.

How to detach and attach the front panel

Before installing the unit, detach the front panel.

A To detach

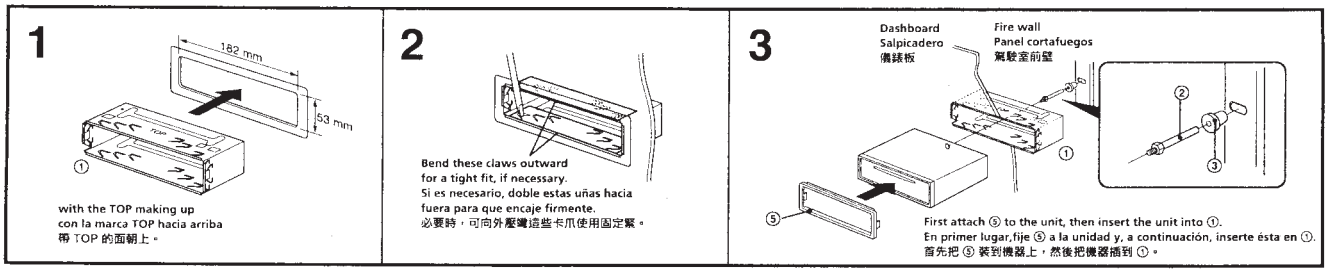
Before detaching the front panel, be sure to press (OFF) to turn off the unit. Then press (RELEASE), slide the front panel a little to the left, and pull it off toward you.

B To attach

Align parts ⓐ and ⓑ, and push the front panel until it clicks.

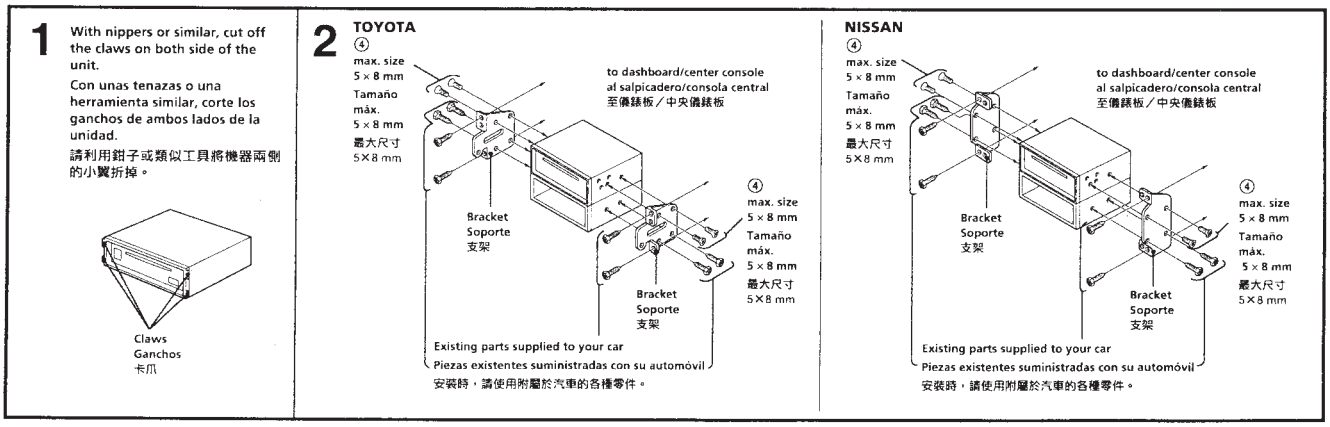
Mounting example

Installation in the dashboard



Mounting the unit in a Japanese car

You may not be able to install this unit in some makes of Japanese cars. In such a case, consult your Sony dealer.



Note
To prevent malfunctions, install only with the supplied screws ④.

Instalación

Precauciones

- No toque los cuatro orificios de la superficie superior de la unidad. Estos orificios son para realizar ajustes del sintonizador que solamente deberán realizar técnicos de reparación.
- Elija cuidadosamente el lugar de instalación de forma que la unidad no interfiera en las funciones normales de conducción.
- Evite instalar la unidad donde pueda quedar sometida a altas temperaturas, como a la luz solar directa o al aire de calefacción, o a polvo, suciedad, o vibraciones excesivas.
- Para realizar una instalación segura y firme, utilice solamente la ferretería de montaje suministrada.

Ajuste del ángulo de montaje

Ajuste el ángulo de montaje a menos de 60°.

Forma de extraer e instalar el panel frontal

Antes de instalar la unidad, extraiga el panel frontal.

A Para extraerlo

Antes de extraer el panel frontal, cerciórese de presionar (OFF) para desactivar la unidad. Después, presione (RELEASE), desplace ligeramente el panel frontal hacia la izquierda y tire de él hacia usted.

B Para instalarlo

Alinee las partes ⓐ y ⓑ, y presione el panel frontal hasta que chasquee.

Ejemplo de montaje

Instalación en el salpicadero

Nota
Para evitar que se produzcan fallos, realice la instalación solamente con los tornillos suministrados ④.

安裝

安裝時須注意

- 別試圖擅改機器頂面的四個孔，這是限維修技術人員調整調諧器時用的。
- 小心選擇適當安裝位置，使機器不致於阻礙正常的駕駛動作。
- 避免把機器安裝在多塵、骯髒、震動得厲害，或如可直接照射到陽光或靠近加熱器熱氣管等高溫的地方。
- 為了安全和安裝穩固之計，請限使用附帶的安裝五金。

安裝角的調整

調整安裝角為 60 度以內。

如何拆卸和附裝上前面板

要安裝機器之前，請先拆下前面板。

A 要拆卸時

要拆卸前面板之前，一定請先按下 (OFF)。然後按下 (RELEASE)（釋放）以打開前面板，並如圖所示往自己的方向拉出把它卸下來。

B 要附裝時

對準 ⓐ 和 ⓑ 而將前面板壓入本機至聽到卡搭聲響。

安裝例

安裝於儀錶板上

註
為防止發生意外事故，安裝時只能使用附屬的螺絲 ④。

Connections

Caution

- This unit is designed for negative earth 12 V DC operation only.
- Before making connections, disconnect the earth terminal of the car battery to avoid short circuits.
- Connect the **yellow** and **red** power input leads only after all other leads have been connected.
- Be sure to connect the red power inoput lead to the positive 12 V power terminal which is energized when the ignition key is in the accessory position.
- **Run all earth wires to a common earth point.**
- Connect the yellow cord to a free car circuit rated higher than the unit's fuse rating. If you connect this unit in series with other stereo components, the car circuit they are connected to must be rated higher than the sum of the individual component's fuse rating. If there are no car circuits rated as high as the unit's fuse rating, connect the unit directly to the battery. If no car circuits are available for connecting this unit, connect the unit to a car circuit rated higher than the unit's fuse rating in such a way that if the unit blows its fuse, no other circuits will be cut off.

If your car has an accessory position on the ignition key switch — POWER SELECT function

To turn the Power Select function on
Press (OFF) while pressing (SOUND).
The Power Select function ties the clock display power to the accessory position on the ignition key switch.
To avoid battery wear, the clock is not displayed while the unit is initializing.

Frequency select switch

The AM (FM) tuning interval is factory-set to the 9K (50k) position. If the frequency allocation system of your country is based on 10 kHz (200 kHz) interval, set the switch on the bottom of the unit to the 10K (200K) position before making connections.

Reset button

When the installation and connections are complete, be sure to press the reset button with a ballpoint pen etc.

Conexiones

Precauciones

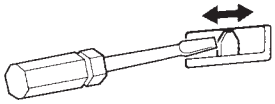
- Esta unidad ha sido diseñada para alimentarse solamente con 12 V CC, negativo a masa.
- Antes de realizar las conexiones, desconecte el terminal de puesta a masa de la batería del automóvil a fin de evitar cortocircuitos.
- Conecte los cables conectores de alimentación **amarrillo** y **rojo** solamente después de haber conectado los demás.
- Cerciórese de conectar el cable conector de alimentación rojo a un terminal de 12 V positivo que se energice al poner la llave de encendido en la posición para accesorios.
- **Conecte todos los conductores de puesta a masa a un punto común.**
- Conecte el cable amarillo a un circuito libre del automóvil que tenga una capacidad superior a la del fusible de la unidad. Si conecta esta unidad en serie con otros componentes estereofónicos, el circuito del automóvil al que se encuentran conectados debe tener una capacidad superior a la de la suma de las capacidades de los fusibles de cada componente. Si ningún circuito del automóvil tiene una capacidad tan alta como la del fusible de la unidad, conecte ésta directamente a la batería. Si el automóvil no dispone de ningún circuito para conectar esta unidad, conéctela a un circuito del automóvil con capacidad superior a la del fusible de la unidad, de forma que si se funde el fusible de ésta, no se interrumpa ningún otro circuito.

Si el automóvil dispone de posición para accesorios en el interruptor de la llave de encendido — Función POWER SELECT

Para activar la función de selección de alimentación
Presione (OFF) mientras presiona (SOUND).
La función de selección de alimentación conecta la alimentación de la indicación del reloj con la posición para accesorios en el interruptor de la llave de encendido.
Para evitar el desgaste de la batería, el reloj no aparece durante la inicialización de la unidad.

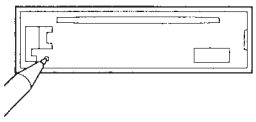
Selector de frecuencia

El intervalo de sintonía de AM (FM) ha sido ajustado en fábrica a la posición 9K (50K). Si el sistema de asignación de frecuencias de su país se basa en el intervalo de 10 kHz (200 kHz), ponga este selector, situado en la base de la unidad, en la posición 10K (200K) antes de realizar las conexiones.



Botón de reposición

Cuando finalice la instalación y las conexiones, cerciórese de presionar el botón de reposición con un bolígrafo, etc.



連接

注意

- 本機專用於負接地 12 V DC 電源操作為製。
- 連接以前，先拆開汽車電池的接地線以防發生短路。
- **紅色**和**黃色**電源輸入導線必須等所有電線都連接完畢以後才連接。
- 紅色導線輸入導線請連接到汽車發動機點火鑰匙被轉在輔助位置時才通電狀態的正 12 V 電源端子。
- **將所有接地線都接到普通接地點上。**
- 將黃色導線連接到額定容量大於機器保險絲容量的未使用的汽車電路線上。如果把本機串連在連接有其他汽車立體聲組成機的汽車電路線上時，則須確認各組成音響系統的保險絲容量總和是否仍小於所連接的汽車電路的容量。如果沒有和機器保險絲的額定容量等值的汽車電路線，請把機器直接連接到汽車電池上。如果沒有適當的汽車電路線可用於連接本機，可將機器連接到大於機器保險絲容量的汽車電路線上。此時，要注意萬一機器燒斷了保險絲也沒有切斷別的使用電路的顧慮才好。

您的汽車的點火鑰匙開關如果備有輔助位置電源 — 選擇開關

要打開電源選擇功能時
請按著 (SOUND) (選擇) 同時按下 (OFF) (關掉)。
電源選擇功能連接時鐘顯示裝源於點火鑰匙開關上的輔助 (Accessory) 位置。
為避免浪費電池電力，在起始機器收聽時，將不顯示時鐘。

頻率選擇開關

AM (FM) 調諧間隔的工廠設定是在 9K (50K) 位置，如果貴國的頻率分配系統是用 10 kHz (200 kHz) 間隔，請在連接機器之前即將機器底面上的切換開關設定於 10 K (200 K) 的位置。

重調按鈕

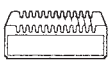
安裝和連接完畢時，一定要用一支圓珠筆等尖端工具按下重調按鈕。

Connection diagram

Diagrama de conexiones

連接圖

Equipment used in illustrations (not supplied)
Equipo utilizado en las ilustraciones (no suministrado)
插圖中的器材（無附帶）

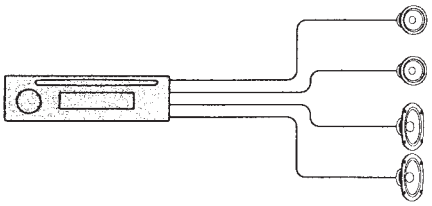


Power amplifier
Amplificador de potencia
功率放大器

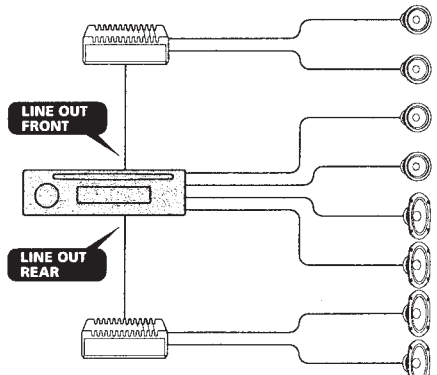
Front speakers
Altavoces delanteros
前揚聲器

Rear speakers
Altavoces traseros
後揚聲器

I



II

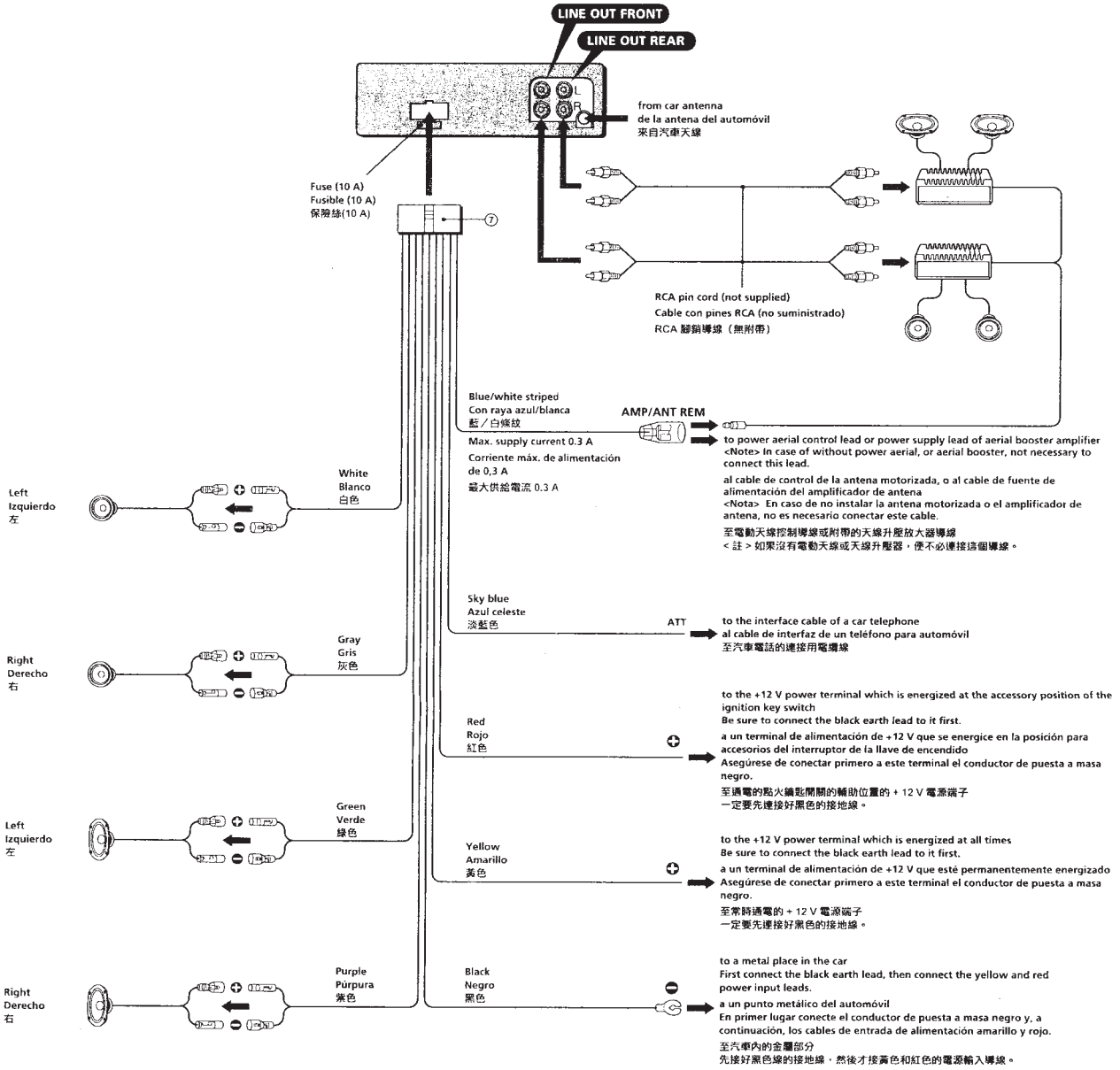


Notes
- *Be sure to connect the earth cord before connecting the amplifier.*
- *If you connect an optional power amplifier and do not use the built-in amplifier, the beep sound will be deactivated.*

Notas
- *Asegúrese de conectar primero el cable de puesta a masa antes de realizar la conexión al amplificador.*
- *Si conecta un amplificador de potencia opcional y no utiliza el incorporado, los pitidos se desactivarán.*

註
- *務必在接放大器之前連接接地線。*
- *如果您連接了選購件的功率放大器而不使用內裝的放大器，將無嘟聲功能。*

Connection example
Ejemplo de conexiones
連接舉例


LINE OUT FRONT
LINE OUT REAR
L
R
from car antenna
de la antena del automóvil
來自汽車天線
Fuse (10 A)
Fusible (10 A)
保險絲(10 A)
⑦
RCA pin cord (not supplied)
Cable con pines RCA (no suministrado)
RCA 腳銷導線（無附帶）
Blue/white striped
Con raya azul/blanca
藍／白條紋
AMP/ANT REM
Max. supply current 0.3 A
Corriente máx. de alimentación de 0,3 A
最大供給電流 0.3 A
to power aerial control lead or power supply lead of aerial booster amplifier
<Note> In case of without power aerial, or aerial booster, not necessary to connect this lead.
al cable de control de la antena motorizada, o al cable de fuente de alimentación del amplificador de antena
<Nota> En caso de no instalar la antena motorizada o el amplificador de antena, no es necesario conectar este cable.
至電動天線控制導線或附帶的天線升壓放大器導線
< 註 > 如果沒有電動天線或天線升壓器，便不必連接這個導線。
Left
Izquierdo
左
White
Blanco
白色
Sky blue
Azul celeste
淡藍色
ATT
to the interface cable of a car telephone
al cable de interfaz de un teléfono para automóvil
至汽車電話的連接用電纜線
Right
Derecho
右
Gray
Gris
灰色
Red
Rojo
紅色
to the +12 V power terminal which is energized at the accessory position of the ignition key switch
Be sure to connect the black earth lead to it first.
a un terminal de alimentación de +12 V que se energice en la posición para accesorios del interruptor de la llave de encendido
Asegúrese de conectar primero a este terminal el conductor de puesta a masa negro.
至通電的點火鑰匙開關的輔助位置的 + 12 V 電源端子
一定要先連接好黑色的接地線。
Left
Izquierdo
左
Green
Verde
綠色
Yellow
Amarillo
黃色
to the +12 V power terminal which is energized at all times
Be sure to connect the black earth lead to it first.
a un terminal de alimentación de +12 V que esté permanentemente energizado
Asegúrese de conectar primero a este terminal el conductor de puesta a masa negro.
至常時通電的 + 12 V 電源端子
一定要先連接好黑色的接地線。
Right
Derecho
右
Purple
Púrpura
紫色
Black
Negro
黑色
to a metal place in the car
First connect the black earth lead, then connect the yellow and red power input leads.
a un punto metálico del automóvil
En primer lugar conecte el conductor de puesta a masa negro y, a continuación, los cables de entrada de alimentación amarillo y rojo.
至汽車內的金屬部分
先接好黑色線的接地線，然後才接黃色和紅色的電源輸入導線。

Notes on the control leads
- *The AMP/ANT REM lead (blue/white) supplies +12 V DC when you turn on the unit. When the AMP/ANT REM lead is connected to the power aerial, the aerial will be extended as long as the unit is turned on.*
- *A power aerial without relay box cannot be used with this unit.*

Memory hold connection
When the yellow power input lead is connected, power will always be supplied to the memory circuit even when the ignition key is turned off.

Notes on speaker connection
- *Before connecting the speakers, turn the unit off.*
- *Use speakers with an impedance of 4 to 8 ohms, and with adequate power handling capacities. Otherwise, the speakers may be damaged.*
- *Do not connect the terminals of the speaker system to the car chassis, and do not connect the terminals of the right speaker with those of the left speaker.*
- *Do not attempt to connect the speakers in parallel.*
- *Do not connect any active speakers (with built-in amplifiers) to the speaker terminals of the unit. Doing so may damage the active speakers. Therefore, be sure to connect passive speakers to these terminals.*

Notas sobre conductores de control
- *El conductor AMP/ANT REM (azul/blanco) suministra +12 V CC cuando conecte la alimentación de la unidad. Al conectar el conductor de control AMP/ANT REM a la antena motorizada, ésta se extenderá siempre que se active la unidad.*
- *Con esta unidad no podrá emplearse una antena motorizada desprovista de caja de relé.*

Conexión para protección de la memoria
Si conecta el conductor de entrada de alimentación amarillo, el circuito de la memoria recibirá siempre alimentación, incluso aunque sitúe la llave de encendido en la posición de desactivacion.

Notas sobre la conexión de los altavoces
- *Antes de conectar los altavoces, desconecte la alimentación de la unidad.*
- *Utilice altavoces con una impedancia de 4 a 8 ohmios, y con la potencia máxima admisible adecuada, ya que de lo contrario podría dañarlos.*
- *No conecte los terminales del sistema de altavoces al chasis del automóvil, ni los del altavoz izquierdo a los del derecho.*
- *No intente conectar los altavoces en paralelo.*
- *No conecte altavoces activos (con amplificadores incorporados) a los terminales de altavoces de la unidad. Si lo hiciese, podría dañar tales altavoces. Por lo tanto, cerciórese de conectar altavoces pasivos a estos terminales.*

控制電線須知
- *當打開收錄電源時，AMP/ANT REM 電線（藍／白色條紋）將供給 +12 V DC 電流。如果將 AMP/ANT REM 電線連接到電動天線，則只要打開音訊設備電源時，天線都將伸開著。*
- *不帶遙電器的電動天線是不能用於本機的。*

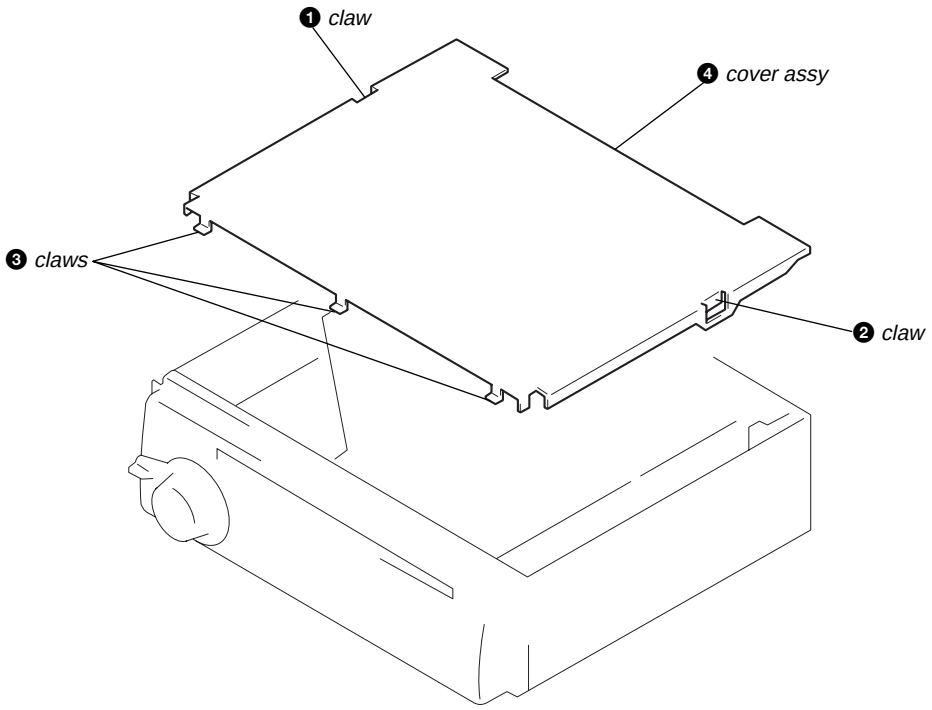
保持存儲的接線
當連接黃色電源輸入電線時，即即使關掉了點火鑰匙開關，仍可保持至高供給存儲電路的電源。

連接揚聲器須知
- *要連接揚聲器時，必須先關掉收錄電源。*
- *請使用阻抗 4 到 8 歐和適當的功率使用容量的揚聲器。否則，揚聲器可能會被損壞。*
- *別將揚聲器系統的端子連接到汽車底盤，也不要把右揚聲器的端子連接至揚聲器的端子。*
- *不可試圖並連揚聲器。*
- *別將任何有源揚聲器（內裝有放大器的）連接到收錄的揚聲器端子。那樣作可會損壞有源揚聲器的。請注意在這些端子上一定只能連接無源揚聲器使用。*

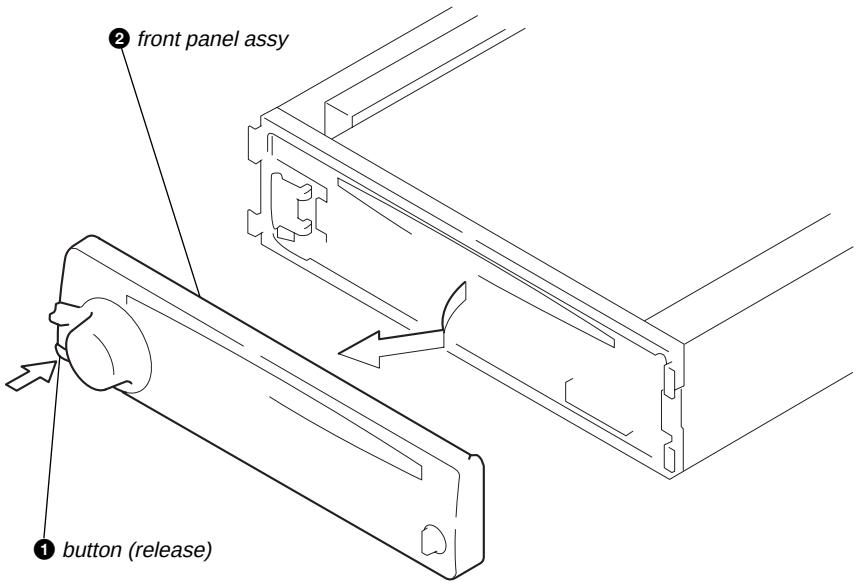
SECTION 2
DISASSEMBLY

Note : Follow the disassembly procedure in the numerical order given.

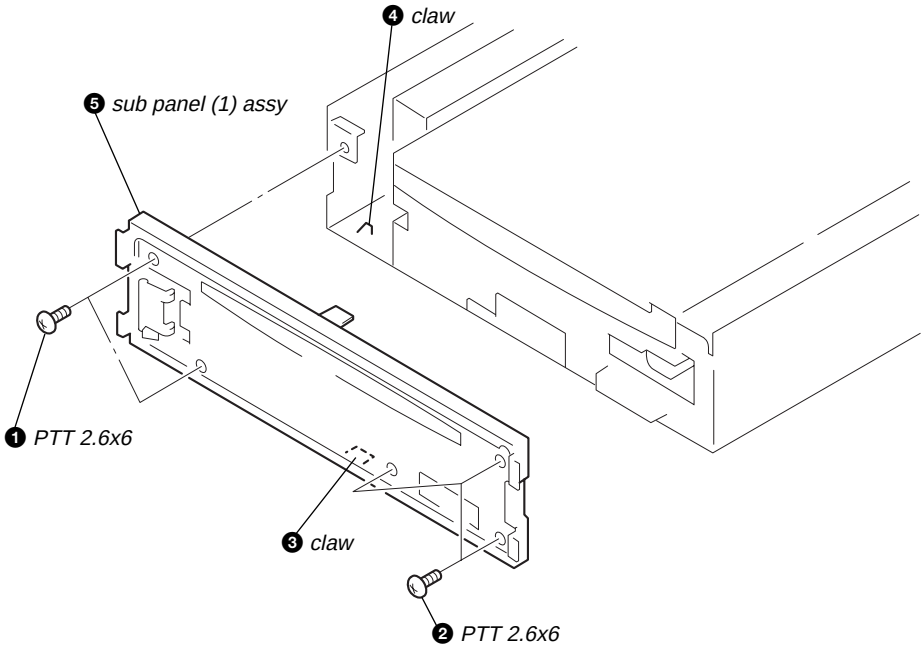
2-1. COVER ASSY



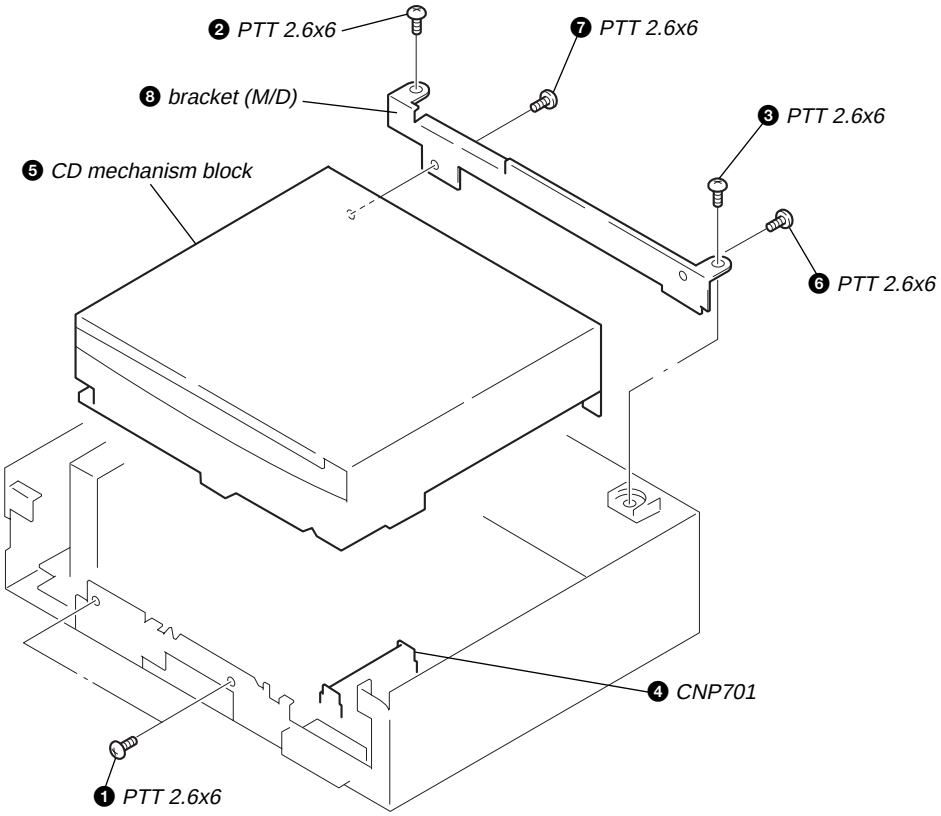
2-2. FRONT PANEL ASSY



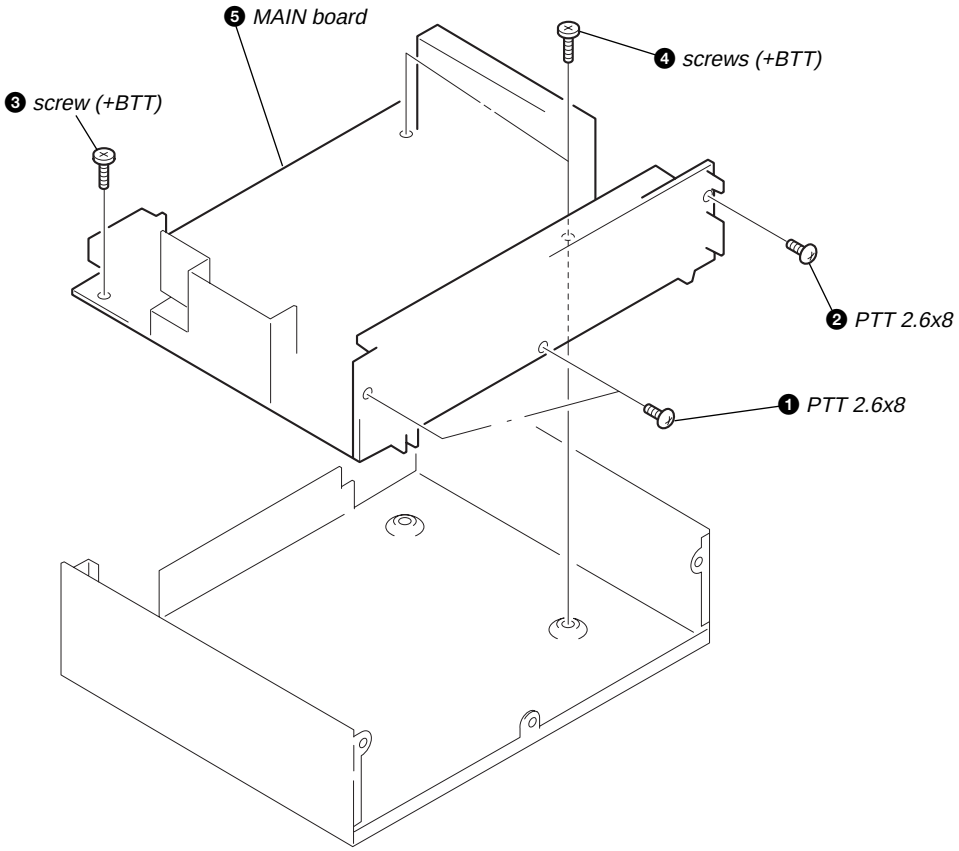
2-3. DISPLAY BOARD



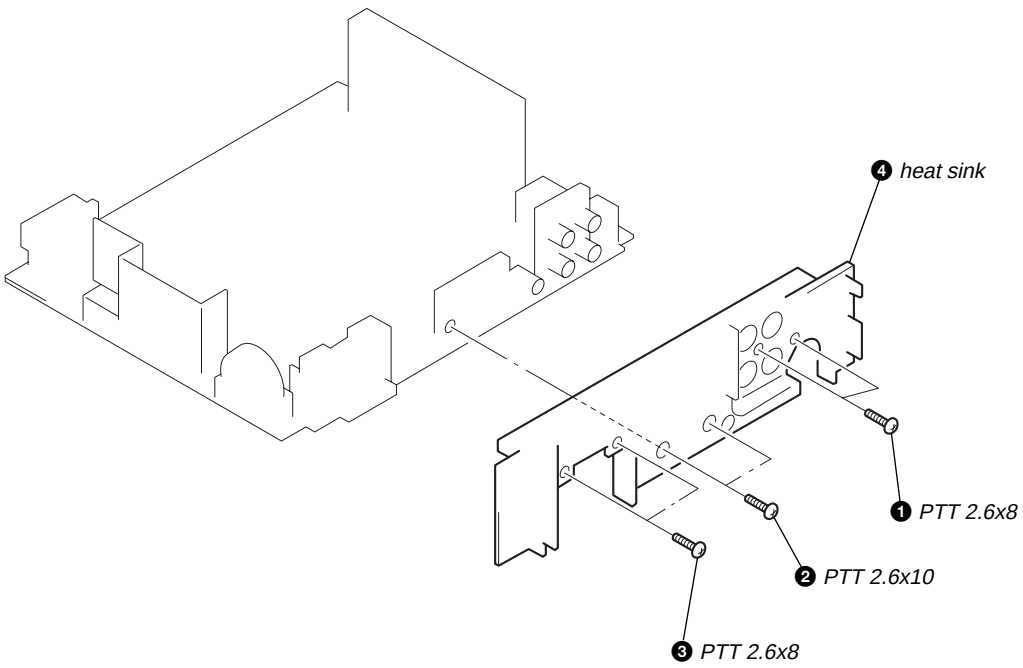
2-4. CD MECHANISM BLOCK



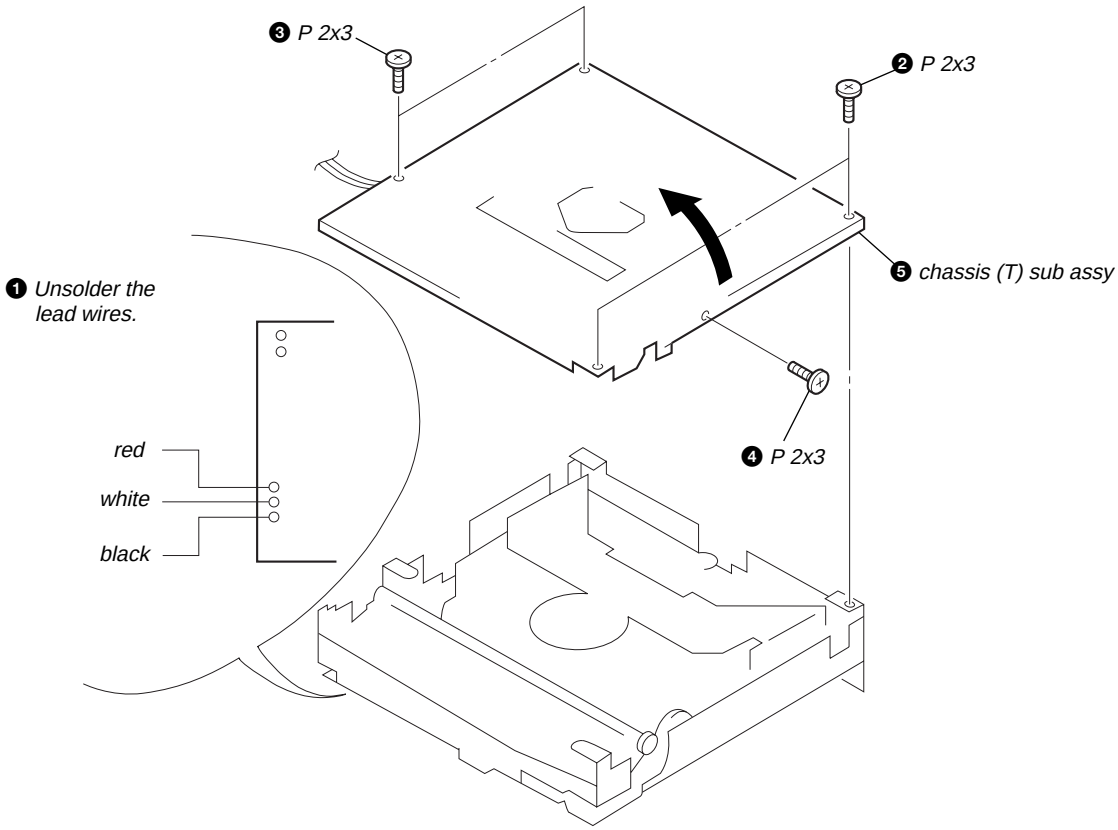
2-5. MAIN BOARD



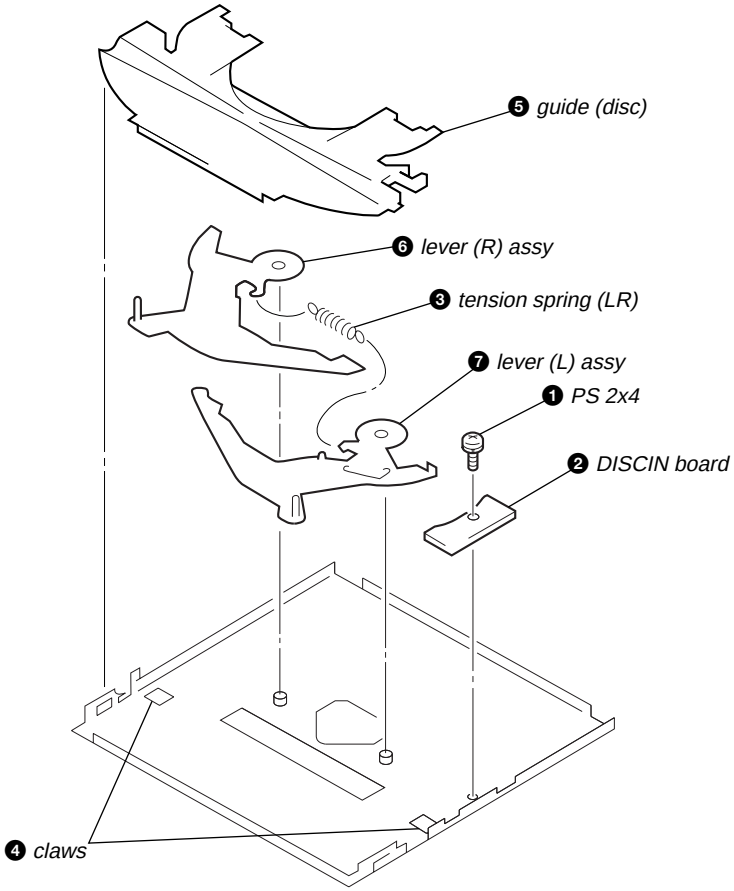
2-6. HEAT SINK



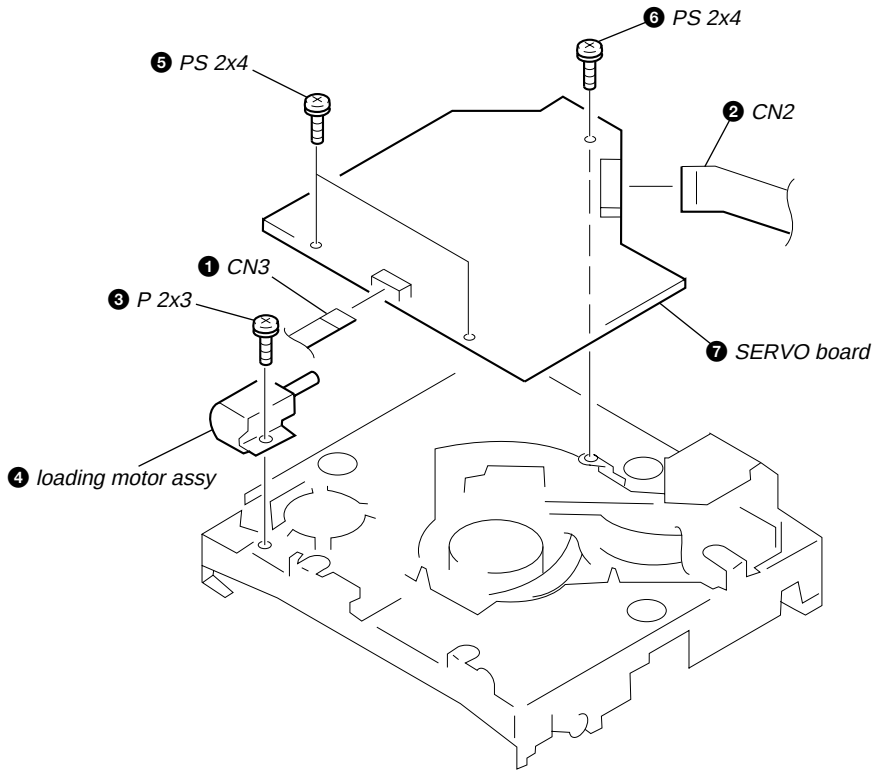
2-7. CHASSIS (T) SUB ASSY



2-8. LEVER ASSY



2-9. SERVO BOARD



2-10. ROLLER ASSY

• When installing, take note of the positions arm (roller) and washers. (Fig. 1)

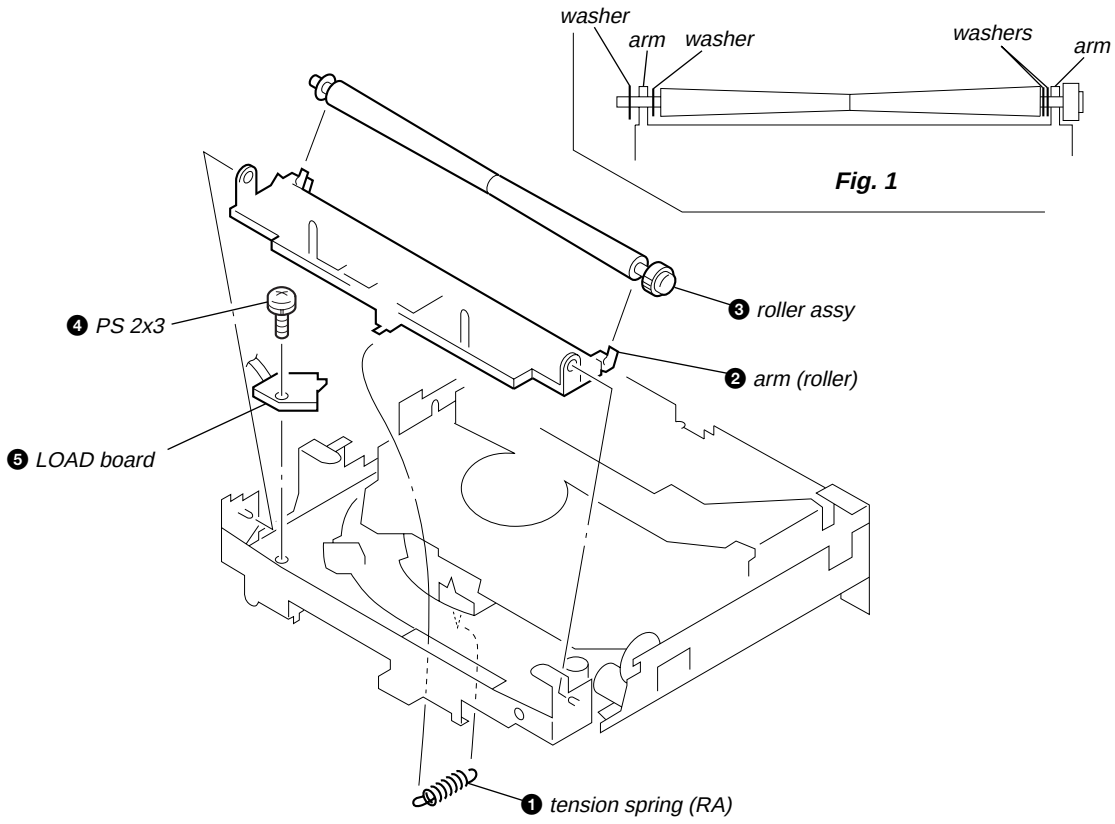
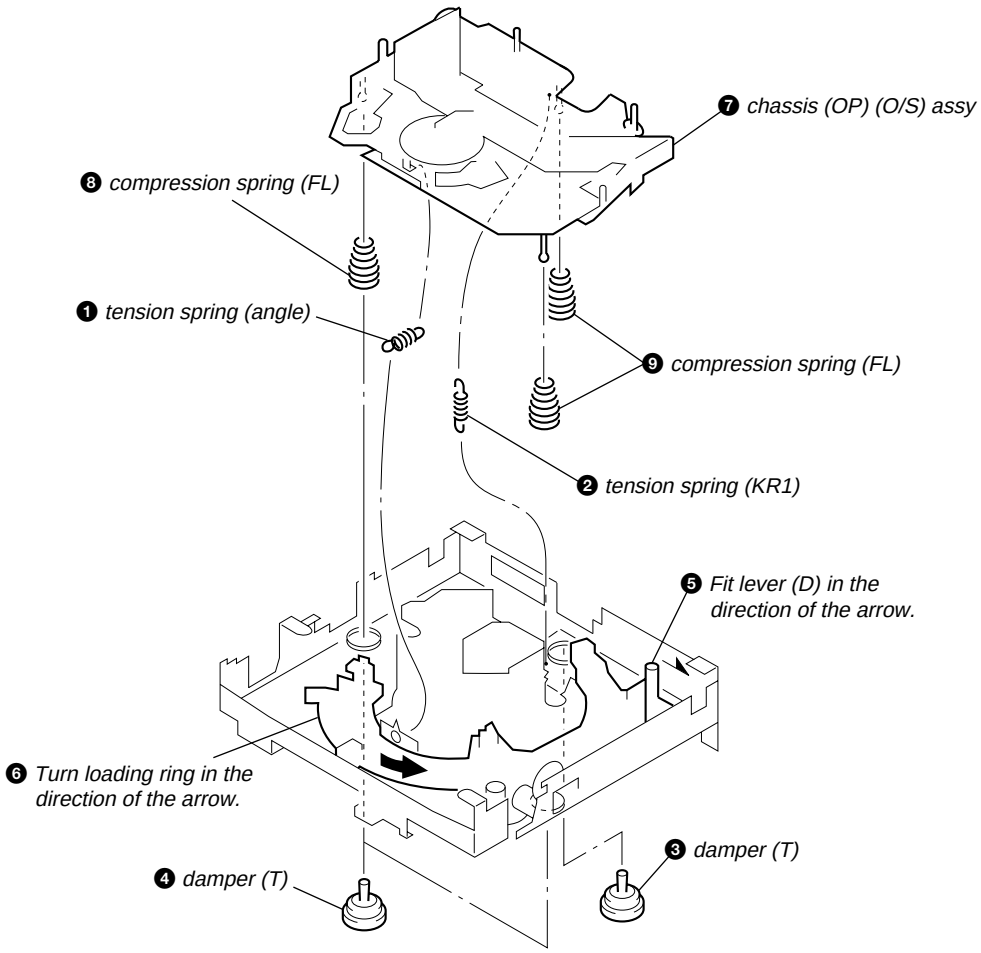
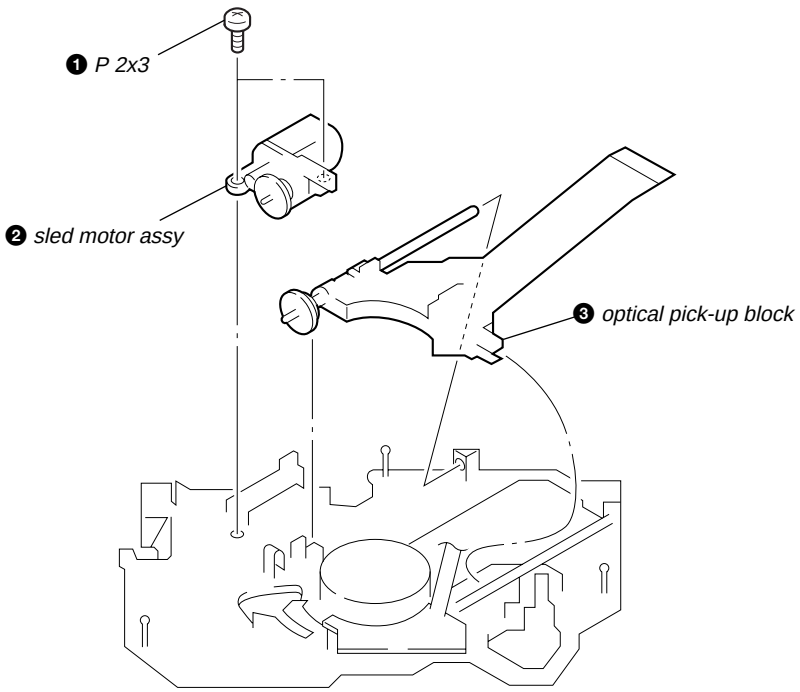


Fig. 1

2-11. CHASSIS (OP) (O/S) ASSY


❼ chassis (OP) (O/S) assy
❽ compression spring (FL)
❶ tension spring (angle)
❾ compression spring (FL)
❷ tension spring (KR1)
❺ Fit lever (D) in the direction of the arrow.
❻ Turn loading ring in the direction of the arrow.
❸ damper (T)
❹ damper (T)

2-12. OPTICAL PICK-UP BLOCK



SECTION 3
ELECTRICAL ADJUSTMENTS

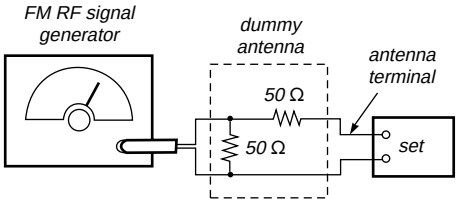
TUNER SECTION **0 dB = 1 µV**

Cautions during repair
When the tuner unit is defective, replace it by a new one because its internal block is difficult to repair.

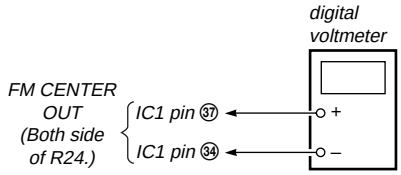
FM Center Adjustment

Setting:

SOURCE button : FMI
D-BASS switch : OFF
Frequency Select switch (E model) : FM 200K

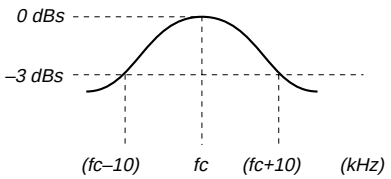


Carrier frequency : 97.9 MHz
Output lever : 60 dB (1 mV)
Mode : mono
Modulation : 1 kHz, 75 kHz deviation (100%)



Procedure:

1. Adjust IFT4 on TU01 so that the reading on the digital voltmeter becomes in 0 ± 30 mV.
2. Output an Fcenter 10 dB signal output from FM RF signal generator so that the LINE OUT REAR jack is –20 dBs.
3. Change the FM RF signal generator frequency and check the deviation of the frequency on + side and – side when the LINE OUT REAR jack drops 3 dB. (Both + side and – side is approx. 50 kHz.)
4. Re-adjust IFT4 on TU01 when the difference deviation of the frequency does more than 10 kHz.

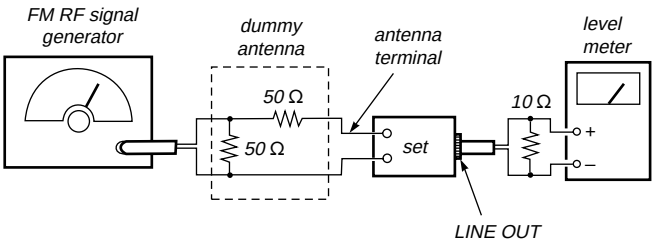


Adjustment Location: See page 17.

FM SENS/IF Adjustment

Setting:

SOURCE button : FMI
D-BASS switch : OFF
Frequency Select switch (E model) : FM 200K



Procedure:

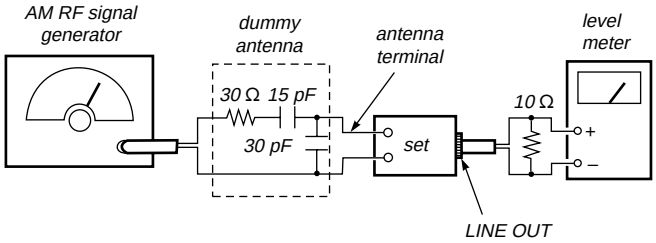
Adjust for a maximum reading on level meter.
FEB1
87.5 MHz

Adjustment Location: See page 17.

AM SENS Adjustment

Setting:

SOURCE ⟶ MODE button : AM
D-BASS switch : OFF
Frequency Select switch (E model) : AM 10K



Procedure:

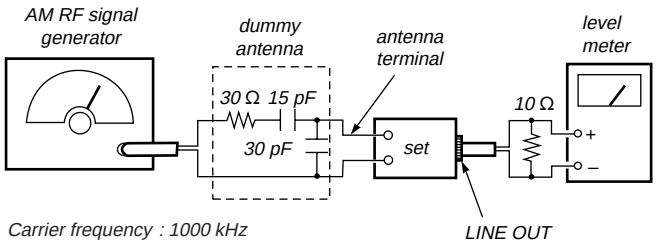
Adjust for a maximum reading on level meter.
IFT1, 3
1,400 kHz

Adjustment Location: See page 17.

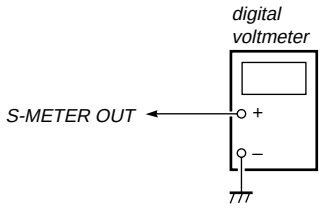
AM Auto Scan/Stop Level Adjustment

Setting:

SOURCE → MODE button : AM
D-BASS switch : OFF
Frequency Select switch (E model) : AM 10K



Carrier frequency : 1000 kHz
30% amplitude modulation by 1 kHz signal
output level : 33 dB (44.7 µV)



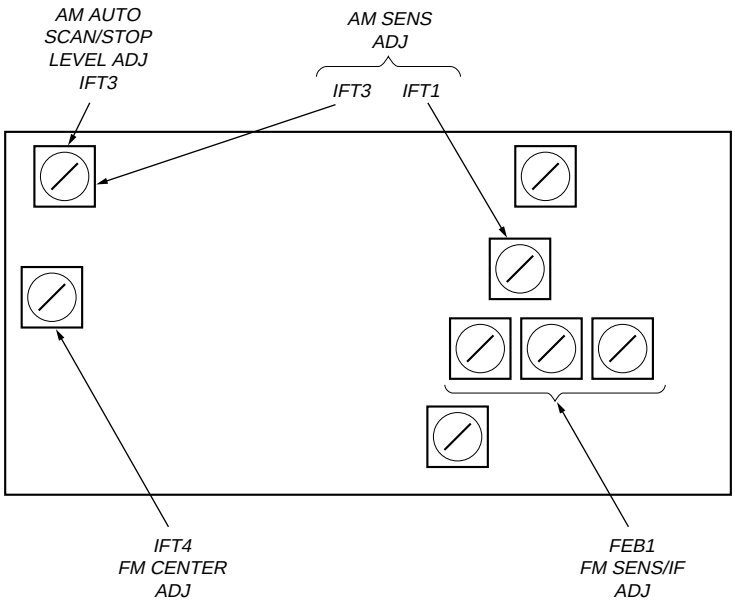
Procedure:

1. Adjust IFT3 on TU01 so that the reading on the digital voltmeter is 1.5 ± 0.2 V.

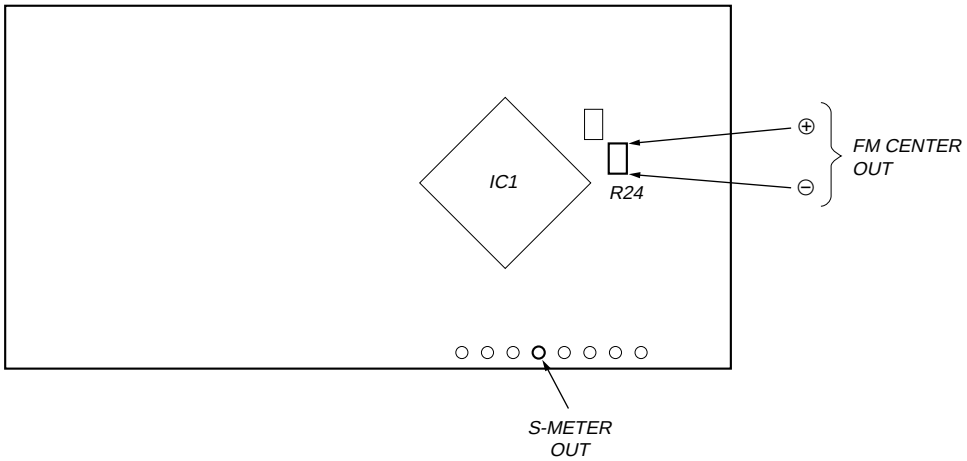
Adjustment Location: tuner unit (TU01)

Adjustment Location: tuner unit (TU01)

– tuner unit (TU01) (component side) –



– tuner unit (TU01) (conductor side) –

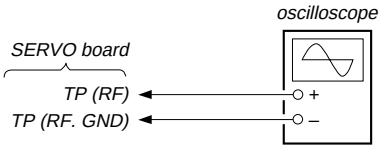


CD SECTION

Note:
1. CD Block basically constructed to operate without adjustment. Therefore, check each item in order given.
2. Use YEDS-18 disc (3-702-101-01) unless otherwise indicated.
3. Use the oscilloscope with more than 10 MΩ impedance.
4. Clean an objective lens by an applicator with neutral detergent when the signal level is low than specified value with the following checks.

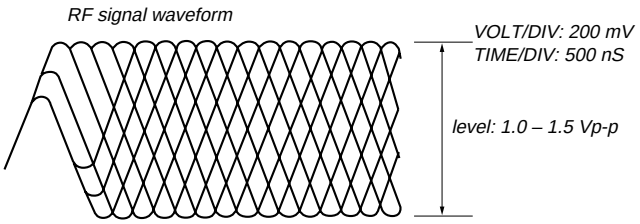
Focus Bias Adjustment

Setting: This adjustment is performed with the set placed horizontally.



Procedure:
1. Connect an oscilloscope between TP (RF) and TP (RF. GND) on the SERVO board.
2. Connect the power supply.
3. Push the RESET button (S801) on the MAIN board.
4. Insert the disc (YEDS-18) and playback.
5. Adjust RV1 so that the oscilloscope waveform is clear and check RF signal level is correct or not.

Note: Clear RF signal waveform means that the sharp "◇" can be clearly distinguished at the center of the waveform.



- When observing the eye pattern, set the oscilloscope to AC range and raise the vertical sensitivity so that it may be easily seen.

Adjustment Location: servo board

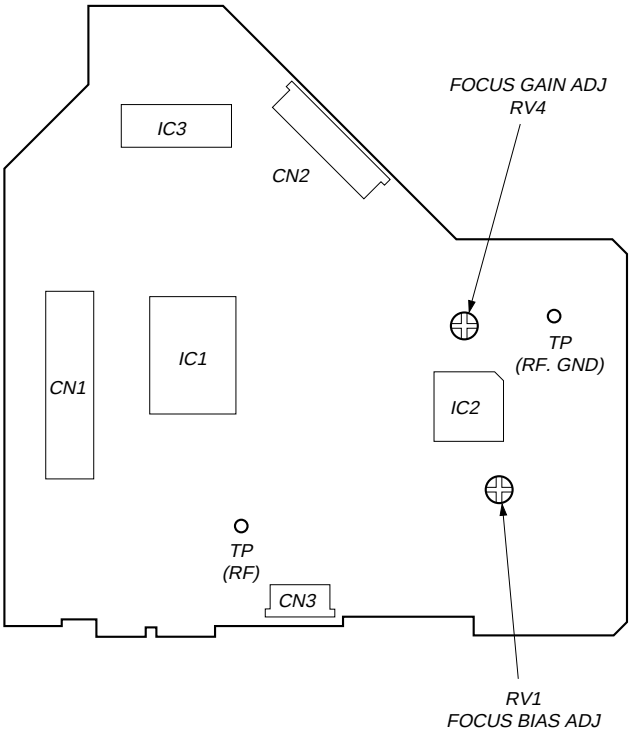
Focus Gain Adjustment (Coarse adjustment)

This adjustment is not required unless the following parts are replaced:
- Optical pick-up
- RV4

Procedure:
1. Set RV4 to the standard position. (mechanical center)
2. Check whether operation noise (while noise type) caused by the 2-axis device (lens section of the optical pick-up) is abnormally loud.
   If the operation noise is too loud, turn RV4 slightly counter-clockwise.
- If the gain is too low:
  Focus does not function and no music is selected.
- If the gain is too high:
  Noise caused by scratches and dust is heard and the operation becomes unstable.

Adjustment Location: servo board

Adjustment Location: servo board (component side)



SECTION 4
DIAGRAMS

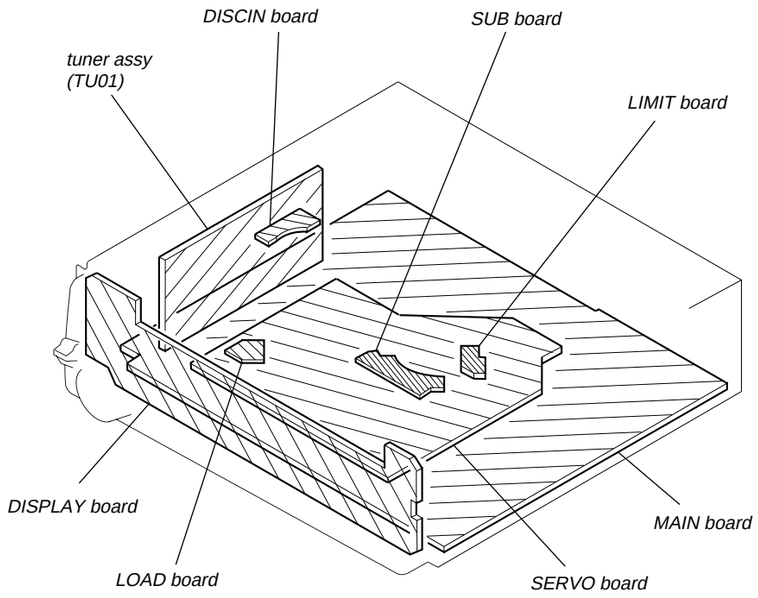
4-1. IC PIN DESCRIPTION

• IC801 µPD17705GC-534-3B9 (SYSTEM CONTROL)

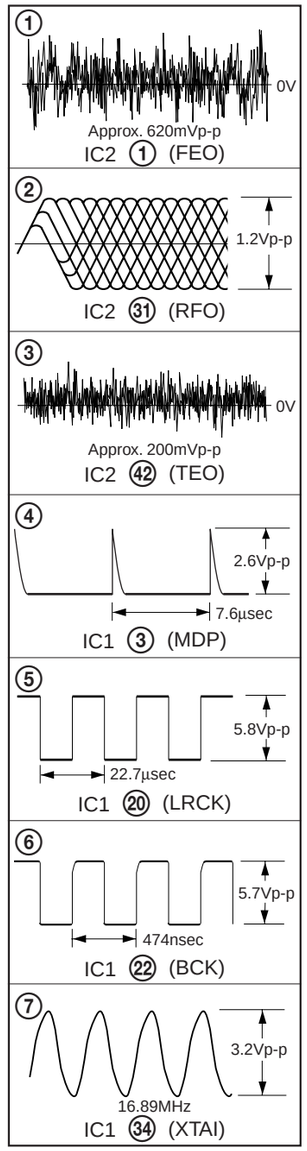
Pin No.	Pin Name	I/O	Pin Description
1	SIRCS	I	SIRCS input (A/D)
2	$\overline{\text{IN-SW}}$	I	CD mechanism position detection
3	$\overline{\text{D-SW}}$	I	CD mechanism position detection
4	$\overline{\text{SELF-SW}}$	I	CD mechanism position detection
5	$\overline{\text{L-SW}}$	I	LIMIT switch
6	LM-EJ	O	Loading motor control (Eject direction)
7	LM-LOD	O	Loading motor control (Loading direction)
8	AMP/ANT-ON	O	Power control for amplifier.
9	MONO	O	Force MONO output
10	SD	I	SD signal input
11	BAND-SW	I	Initialize switch input terminal
12	AREA1-SW	I	Initialize switch input terminal
13	AREA2-SW	I	Initialize switch input terminal
14, 15	RE1, 2	I	Rotary encoder input 1, 2
16	$\overline{\text{SEEK}}$	O	SEEK output
17	$\overline{\text{CD-ON}}$	I/O	Servo drive power
18	$\overline{\text{FM-ON}}$	I/O	FM select output
19	$\overline{\text{TU-ON}}$	I/O	AM select output
20	NC	—	Not used.
21	GND3	—	Ground
22	KEYIN3	I	Not used (Connect to ground)
23, 24	KEYIN2, 1	I	A/D key input 2, 1
25	ROT-IN	I	Rotary commander input
26	S-METER	I	FM and AM common signal meter A/D conversion input
27	$\overline{\text{TEST-SW}}$	I	TEST mode select input
28	AM-IFC	I	AM center frequency input
29	FM-IFC	I	FM center frequency input
30	VDD2	—	Power supply (+5 V)
31	VCOH-FM	I	Local oscillation frequency input (FM)
32	VCOL-AM	I	Local oscillation frequency input (AM)
33	GND2	—	Ground
34	NC	—	Not used.
35	EO1-PDOUT	O	Error out output
36	TESTO	—	Connect to ground
37	AM-ON(TU-ON)	O	AM power output (AM select)
38	FM-ON(FM/$\overline{\text{AM}}$)	O	FM power output (FM select)
39	LCL/$\overline{\text{DX}}$	O	LOCAL/$\overline{\text{DX}}$ select (“H” : LOCAL, “L” : DX)
40	BEEP	O	BEEP output
41	$\overline{\text{ACC-IN}}$	I	Accessory input
42	SCOR	I	SUBQ data read request
43	MUTE	O	System mute output
44	$\overline{\text{AMP-MUTE}}$	O	Power amplifier mute output
45	TEL-MUTE	O	Telephone mute output
46	NC	—	Fixed at “H” in this set.
47	VOL-CE	O	Electric volume chip select
48	VOL-CLK	O	Electric volume serial clock
49	VOL-DATA	O	Electric volume serial data
50	EMPHO	O	De-emphasis control output
51	PW-ON	O	System power control
52	MD-ON	O	Loading motor power
53	CD-ON	O	Servo drive power

Pin No.	Pin Name	I/O	Pin Description
54	ILL-ON	O	Illumination output
55	C.ALARM	I	Caution alarm select input (Used)
56	NC	I	Not used (Connect to ground)
57	NC	—	Fixed at “H” in this set.
58	LCD-CE	O	LCD drive chip select output
59	EZ-SEL	I	SHIFT + input
60	SENS	I	Information input from servo IC.
61	FOK	I	Focus OK input
62	$\overline{\text{LD-ON}}$	O	Laser diode control
63	NC	—	Not used. (Connect to ground)
64	[IN] ST/MONO [OUT] $\overline{\text{MONO}}$	I/O	Used for both STEREO indicator display input and force MONO output. (FM)
65	LCD-CKO	O	LCD driver serial clock output
66	LCD-So	O	LCD driver serial data output
67	$\overline{\text{INH}}$	O	Inhibit output
68	SQ-CKo	O	Q data read serial clock output
69	CD-RST	O	Servo IC/DAC reset output
70	SQ-SI	I	Q data input
71	CD-SO	O	Serial data output to servo IC.
72	CD-LAT	O	Data latch output to servo IC.
73	CD-CKO	O	Serial clock output to servo IC.
74	VREF	—	Not used.
75	GND1	—	Ground
76	X-OUT	—	Crystal oscillator connection (4.5 MHz)
77	X-IN	I	Crystal oscillator connection (4.5 MHz)
78	BU-IN	I	Back-up detection
79	VDD1	—	Power supply (+5 V)
80	$\overline{\text{RESET}}$	I	RESET input

4-2. CIRCUIT BOARDS LOCATION



• **Waveforms** (MODE:PLAY)



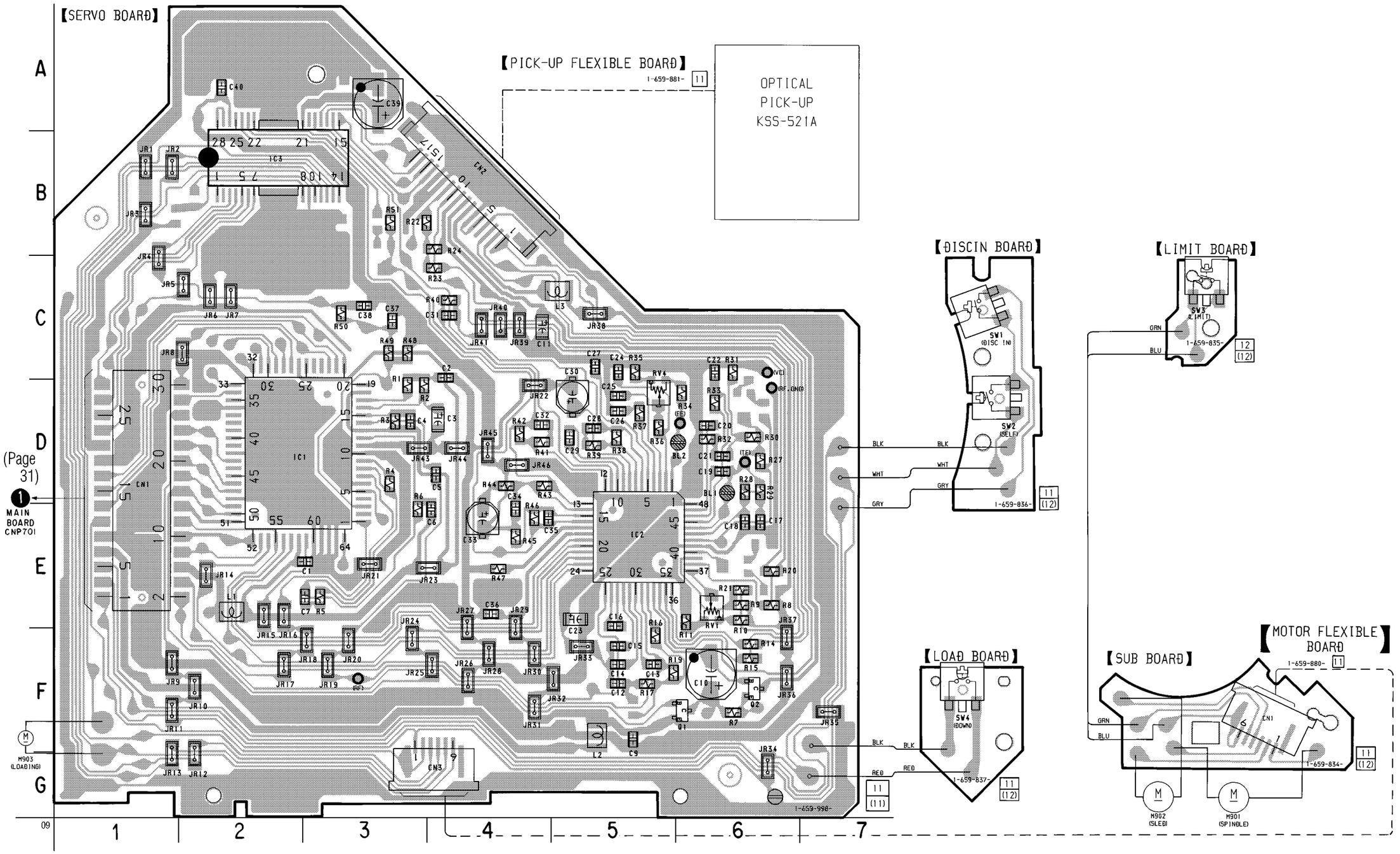
Note on Schematic Diagram:

- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

- B+ : B+ Line.
- ▭ : adjustment for repair.
- Power voltage is dc 14.4V and fed with regulated dc power supply from ACC and BATT cords.
- Voltage and waveforms are dc with respect to ground under no-signal conditions.
  no mark : CD PLAY
  * : Impossible to measure
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope.
  Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  ⇨ : CD

4-3. PRINTED WIRING BOARDS — CD MECHANISM SECTION —

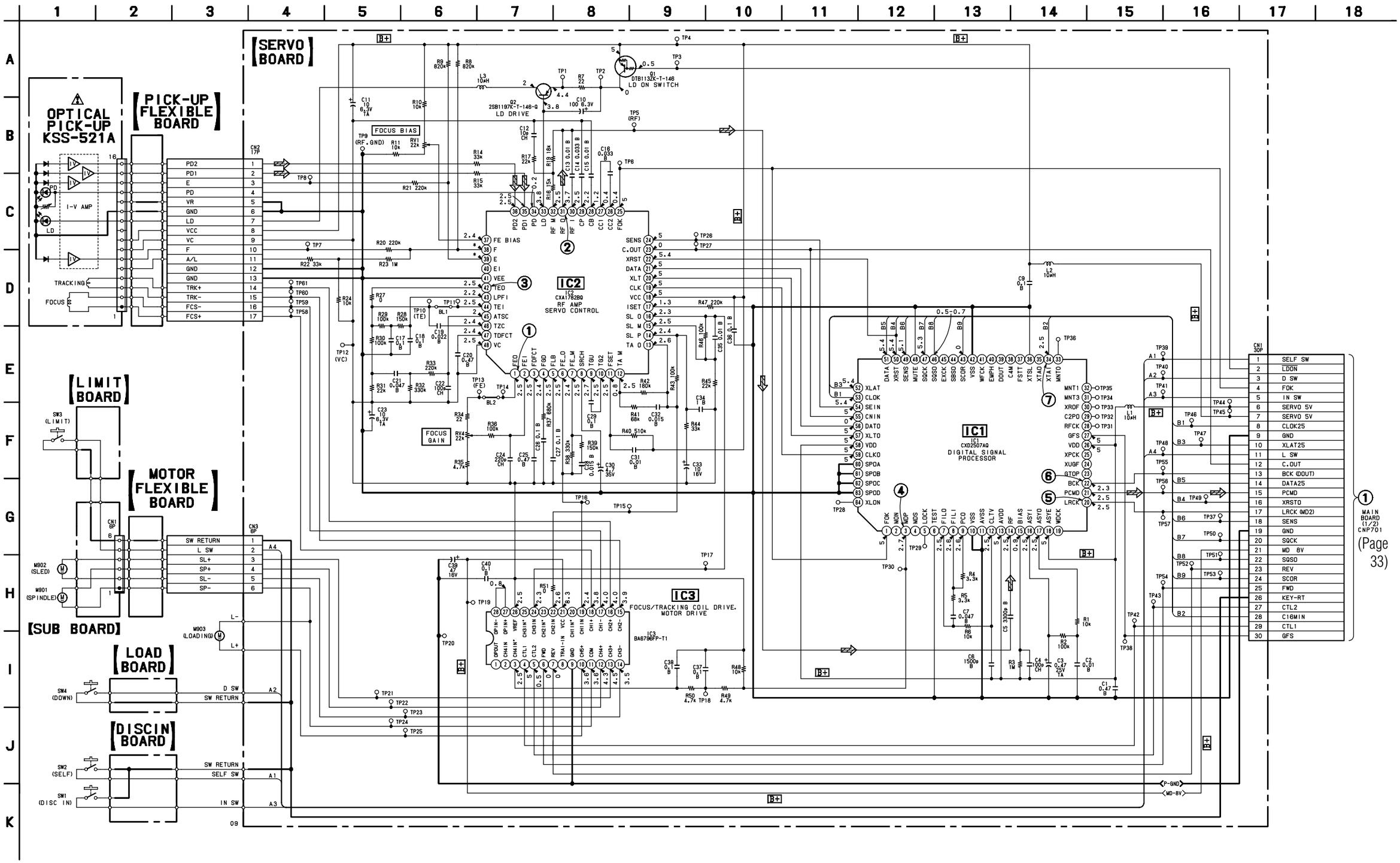


• Semiconductor Location

Ref. No.	Location
IC1	D-2
IC2	E-5
IC3	B-2
Q1	F-6
Q2	F-6

Note:
- ○——— : parts extracted from the component side.
- ——— : parts extracted from the conductor side.
- ▒▒▒ : Pattern from the side which enables seeing.

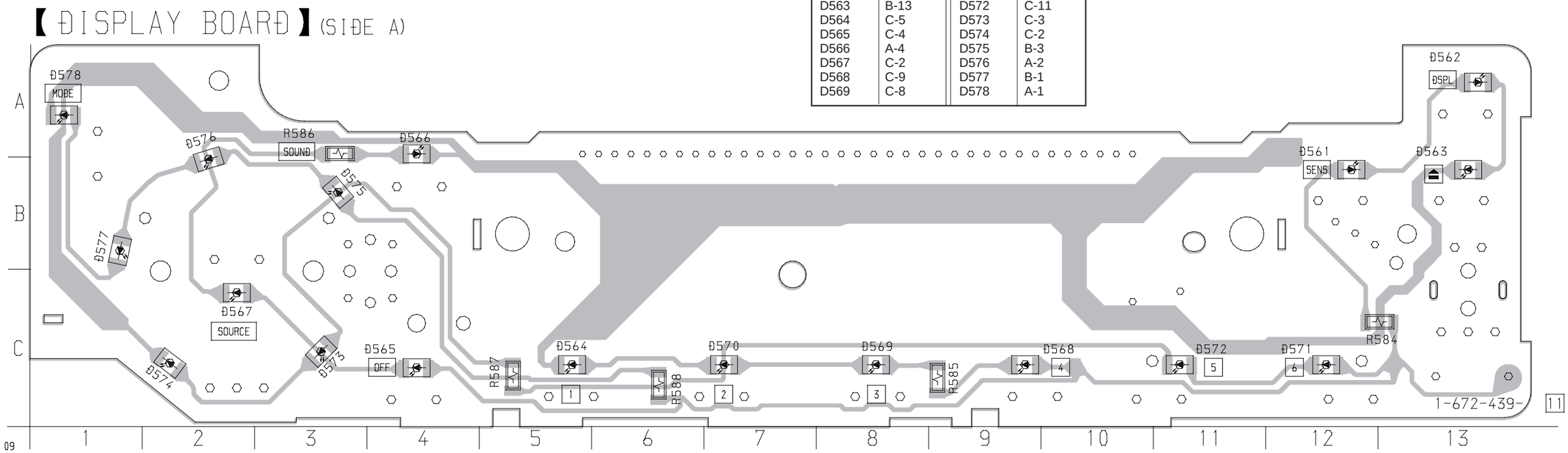
4-4. SCHEMATIC DIAGRAM — CD MECHANISM SECTION — • Refer to page 22 for Waveforms and Note. • Refer to page 37 for IC Block Diagrams.

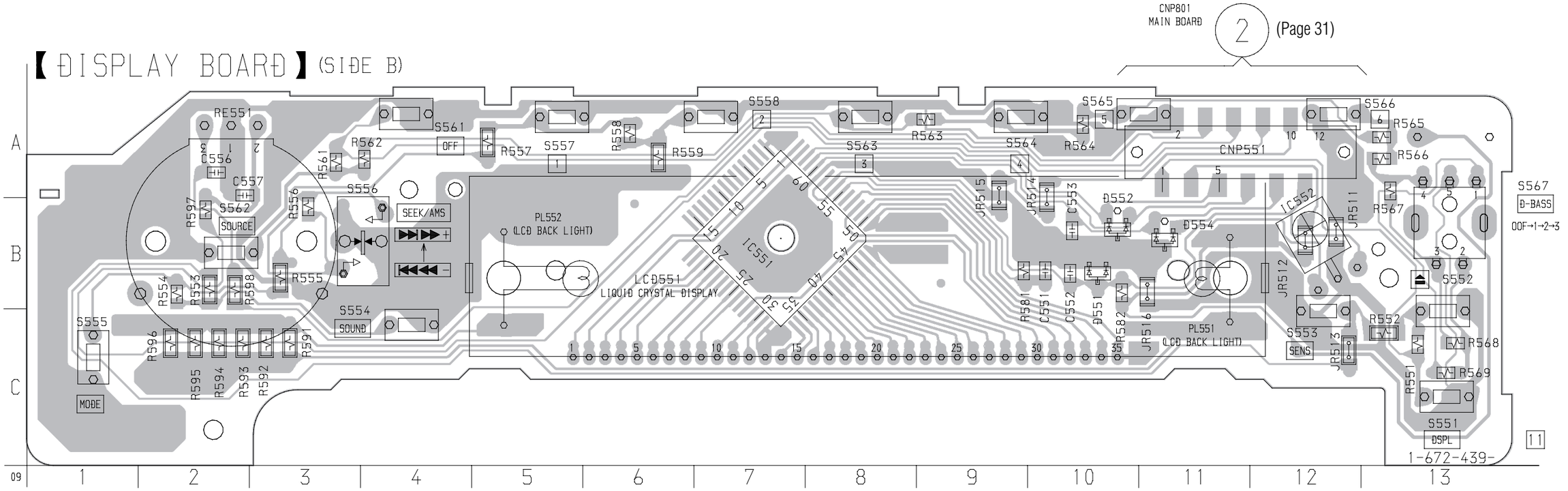


4-5. PRINTED WIRING BOARD — DISPLAY SECTION —

• Semiconductor Location

Ref. No.	Location	Ref. No.	Location
D561	B-12	D570	C-7
D562	A-13	D571	C-12
D563	B-13	D572	C-11
D564	C-5	D573	C-3
D565	C-4	D574	C-2
D566	A-4	D575	B-3
D567	C-2	D576	A-2
D568	C-9	D577	B-1
D569	C-8	D578	A-1





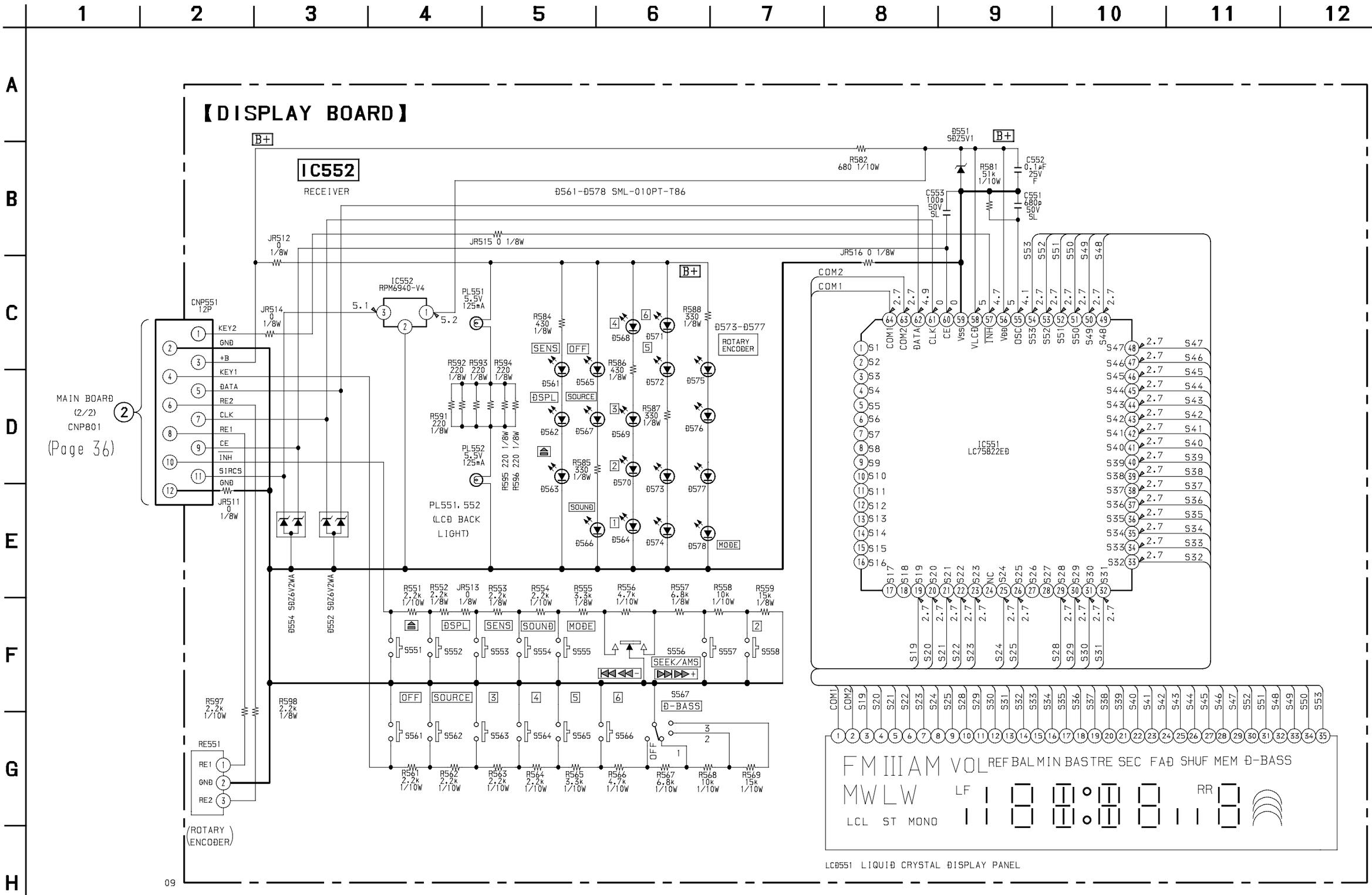
• Semiconductor Location

Ref. No.	Location
D551	B-10
D552	B-10
D554	B-11
IC551	B-7

Note:
- ○ : Through hole.
- ▒▒▒ : Pattern from the side which enables seeing. (The other layer's patterns are not indicated.)

Caution:
Pattern face side: (Side B) Parts on the pattern face side seen from the pattern face are indicated.
Parts face side: (Side A) Parts on the parts face side seen from the parts face are indicated.

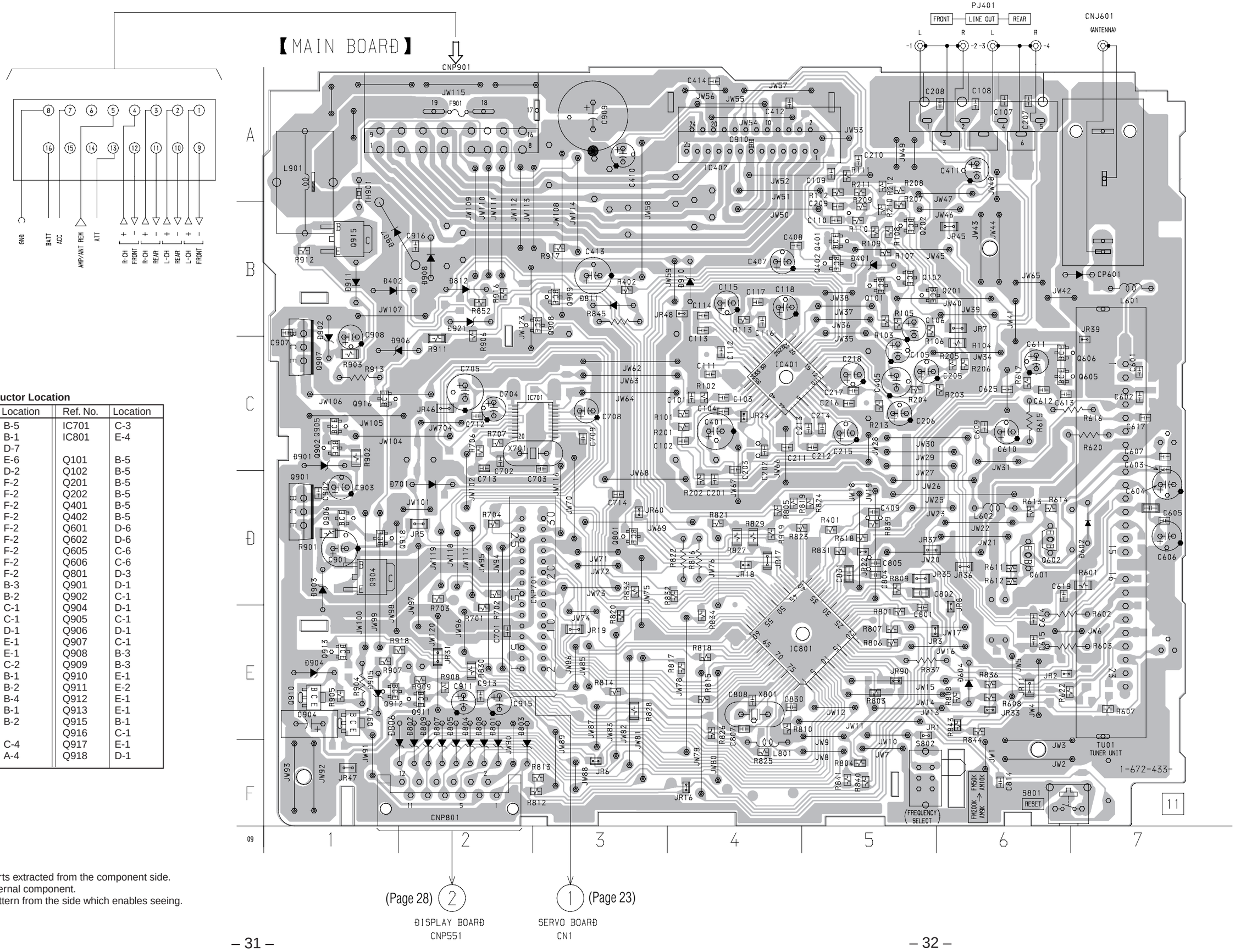
4-6. SCHEMATIC DIAGRAM — DISPLAY SECTION —



Note:

- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- B+ : B+ Line.
- Power voltage is dc 14.4V and fed with regulated dc power supply from ACC and BATT cords.
- ▭ : panel designation.
- Voltage is dc with respect to ground under no-signal (detuned) condition.
  no mark : FM
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.

4-7. PRINTED WIRING BOARD — MAIN SECTION —



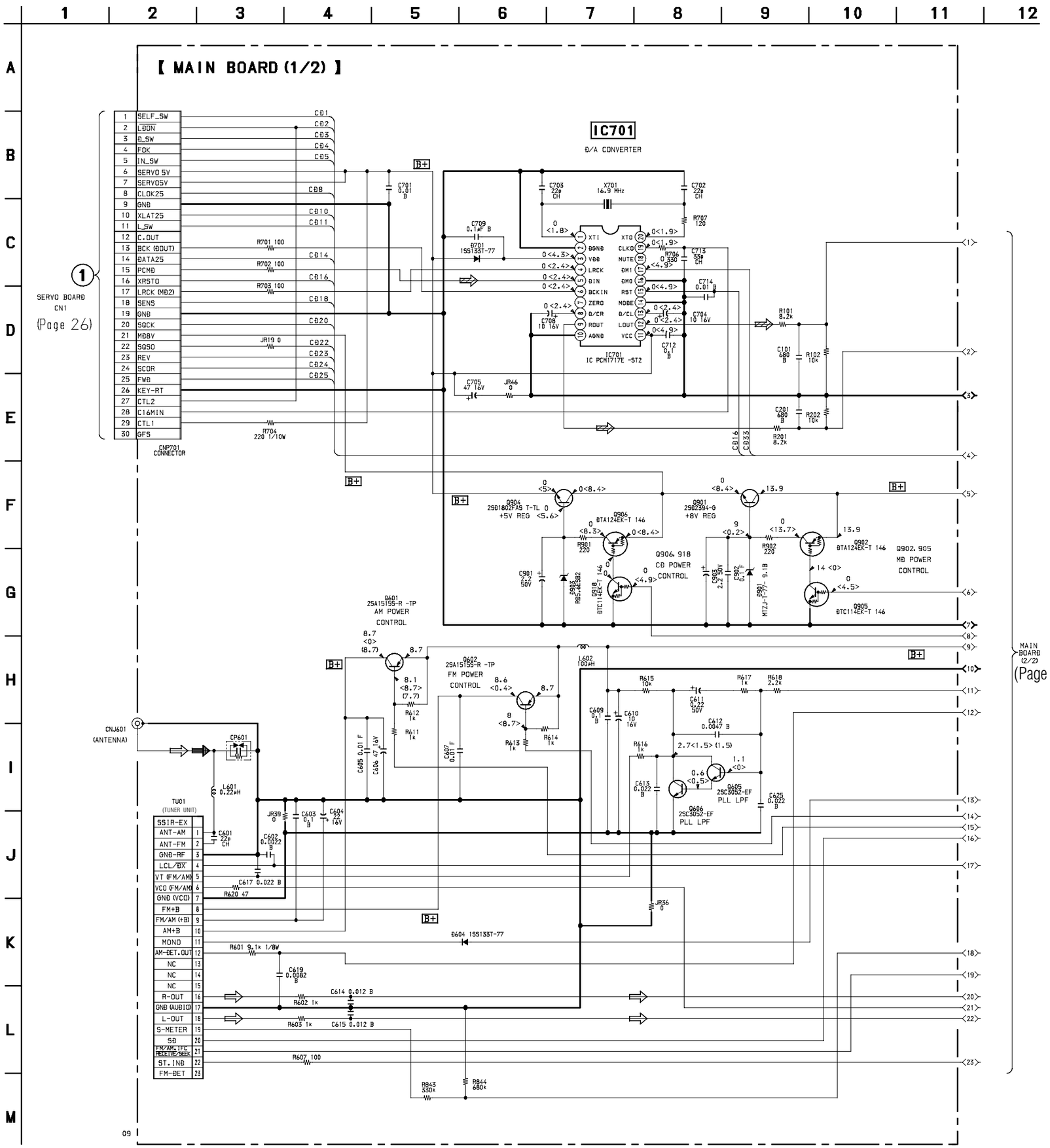
• **Semiconductor Location**

Ref. No.	Location	Ref. No.	Location
D401	B-5	IC701	C-3
D402	B-1	IC801	E-4
D602	D-7		
D604	E-6	Q101	B-5
D701	D-2	Q102	B-5
D801	F-2	Q201	B-5
D802	F-2	Q202	B-5
D803	F-2	Q401	B-5
D804	F-2	Q402	B-5
D805	F-2	Q601	D-6
D806	F-2	Q602	D-6
D807	F-2	Q605	C-6
D808	F-2	Q606	C-6
D809	F-2	Q801	D-3
D811	B-3	Q901	D-1
D812	B-2	Q902	C-1
D901	C-1	Q904	D-1
D902	C-1	Q905	C-1
D903	D-1	Q906	D-1
D904	E-1	Q907	C-1
D905	E-1	Q908	B-3
D906	C-2	Q909	B-3
D907	B-1	Q910	E-1
D908	B-2	Q911	E-2
D910	B-4	Q912	E-1
D911	B-1	Q913	E-1
D921	B-2	Q915	B-1
		Q916	C-1
IC401	C-4	Q917	E-1
IC402	A-4	Q918	D-1

Note:

- ○—— : parts extracted from the component side.
- △ : internal component.
- ▒▒▒ : Pattern from the side which enables seeing.

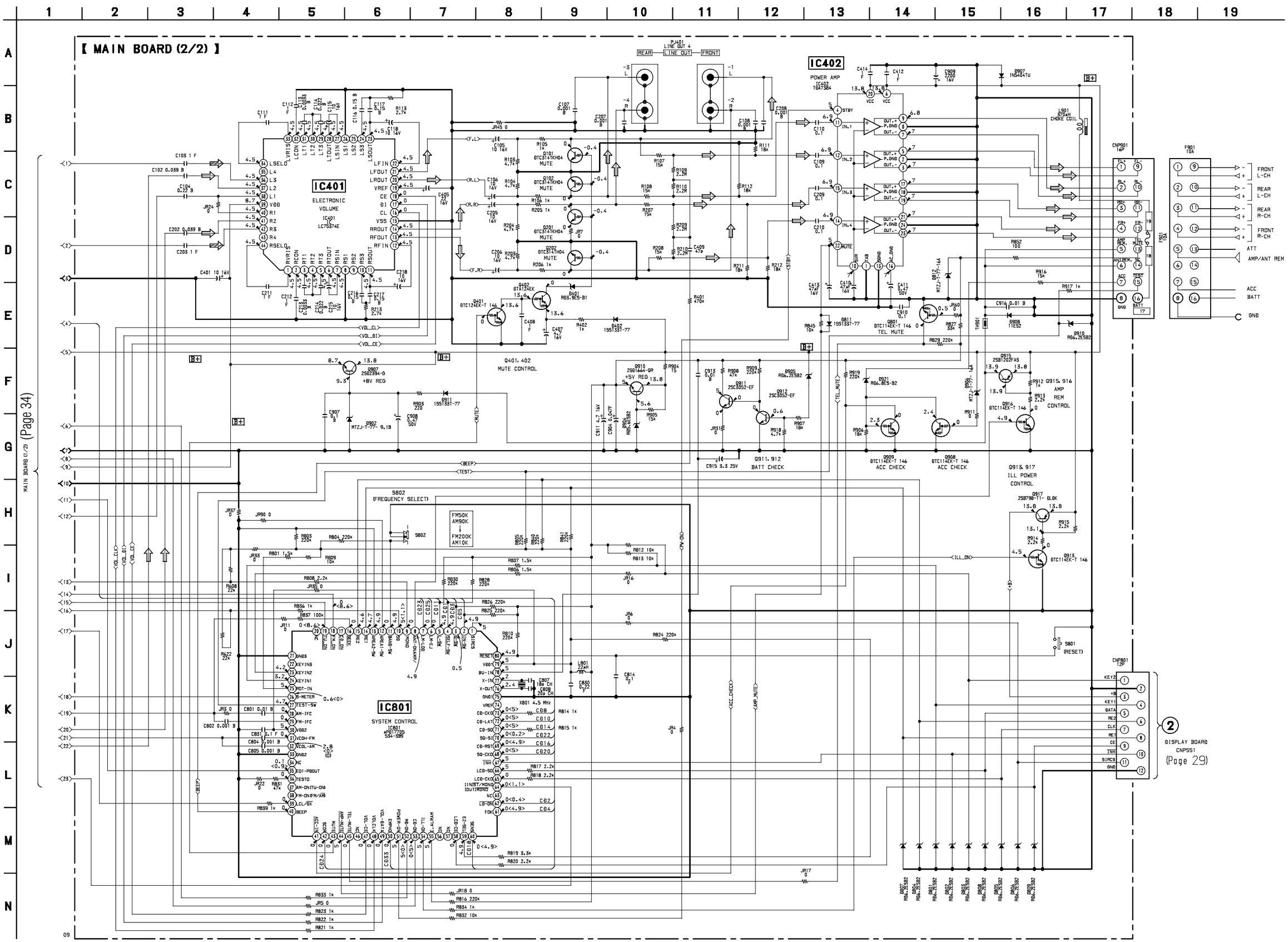
4-8. SCHEMATIC DIAGRAM — MAIN SECTION (1/2) —



Note:

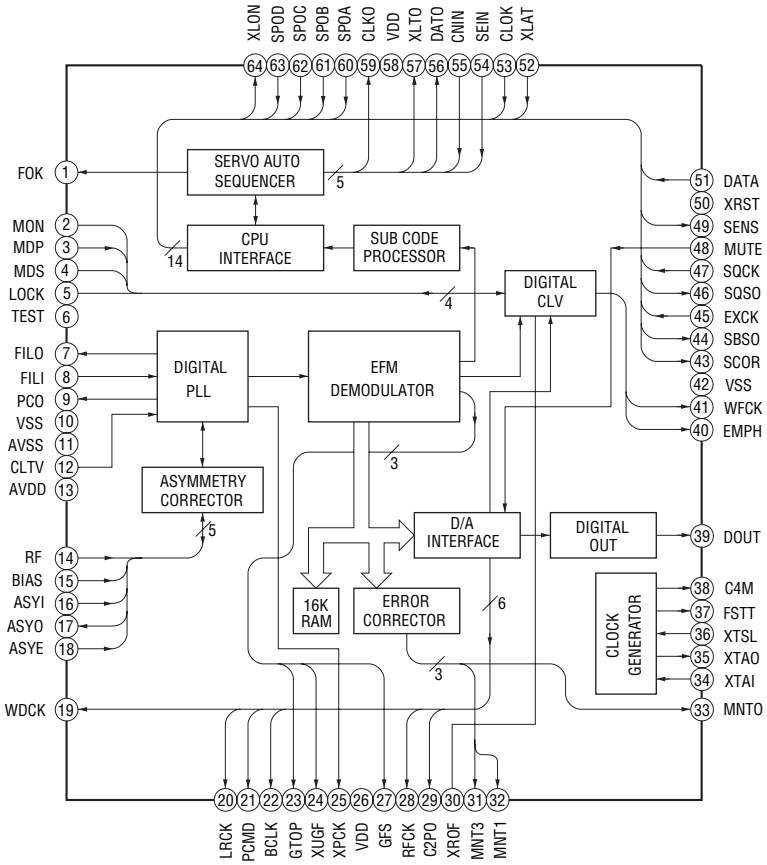
- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- △ : internal component.
- ▭ : panel designation.
- B + : B+ Line.
- Power voltage is dc 14.4V and fed with regulated dc power supply from ACC and BATT cords.
- Voltage is dc with respect to ground under no-signal (detuned) condition.
  no mark : FM
  ( ) : AM
  < > : CD PLAY
  * : Impossible to measure
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Signal path.
  ⇨ : FM
  ➡ : AM
  ⇛ : CD

4-9. SCHEMATIC DIAGRAM — MAIN SECTION (2/2) — • Refer to page 39 for IC Block Diagrams.

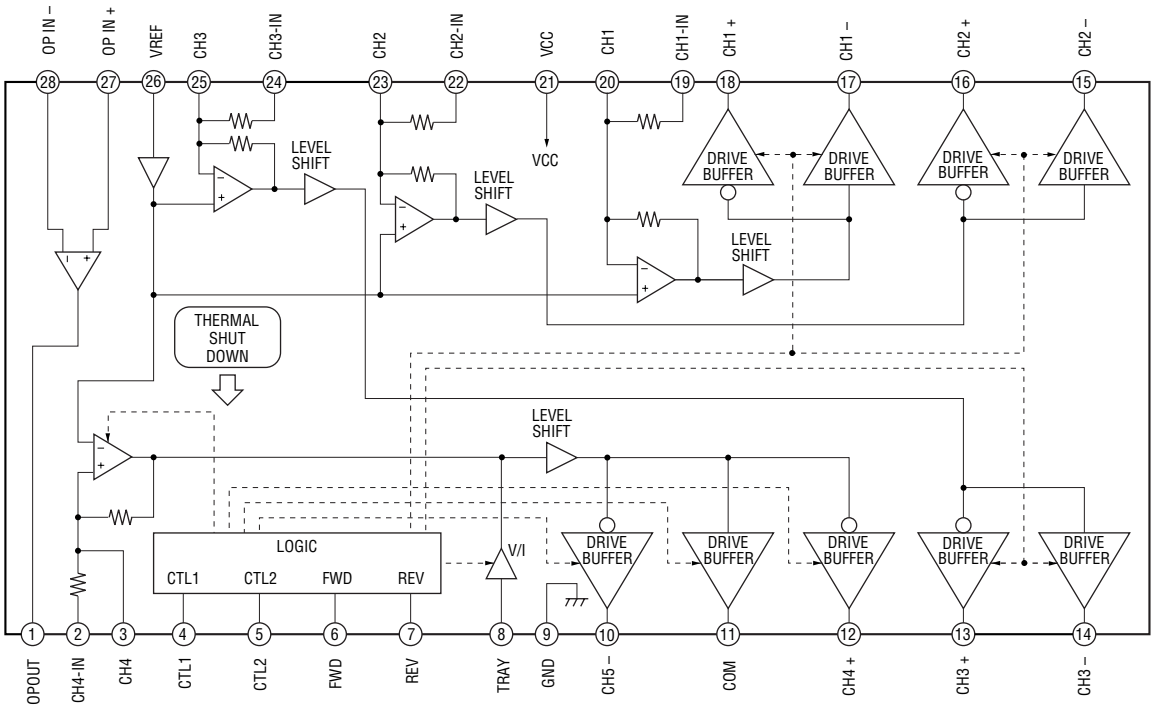


• **IC Block Diagrams**

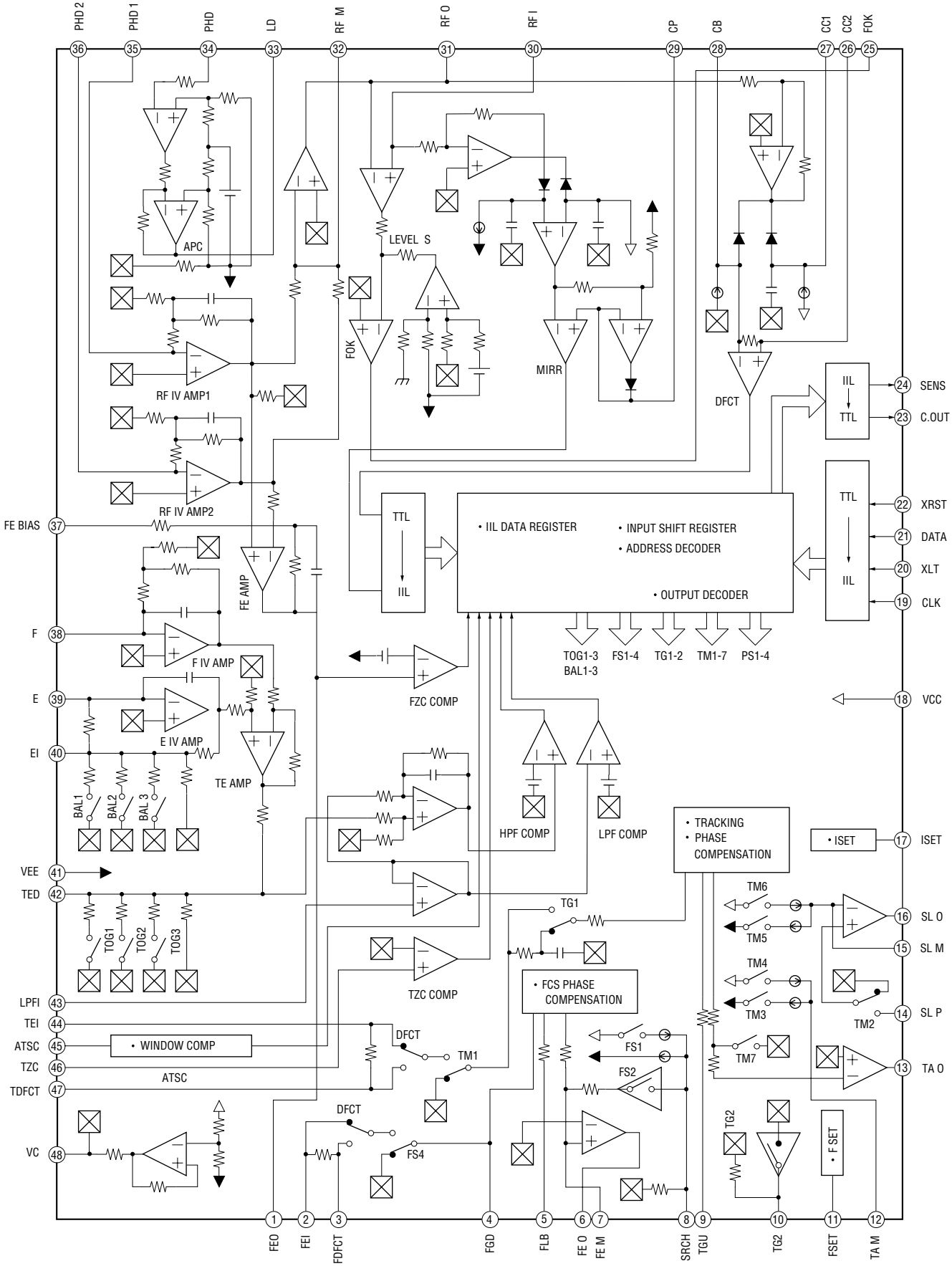
IC1 CXD2507AQ



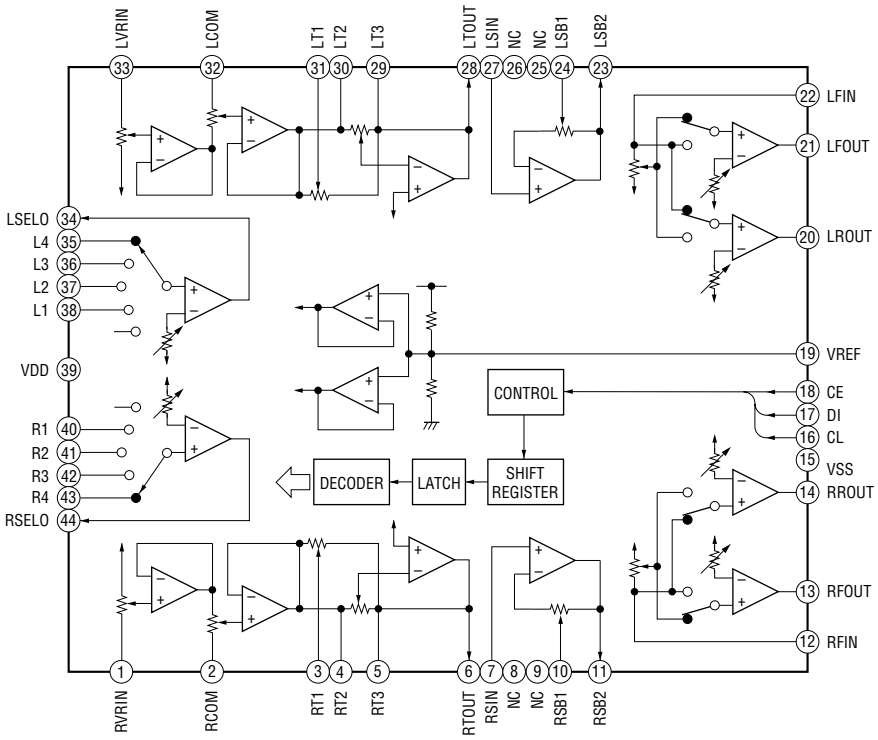
IC3 BA6796FP-T1


OP IN – OP IN + VREF CH3 CH3-IN CH2 CH2-IN VCC CH1 CH1-IN CH1 + CH1 – CH2 + CH2 –
28 27 26 25 24 23 22 21 20 19 18 17 16 15
LEVEL SHIFT
VCC
DRIVE BUFFER
THERMAL SHUT DOWN
LOGIC
CTL1 CTL2 FWD REV
V/I
1 2 3 4 5 6 7 8 9 10 11 12 13 14
OPOUT CH4-IN CH4 CTL1 CTL2 FWD REV TRAY GND CH5 – COM CH4 + CH3 + CH3 –

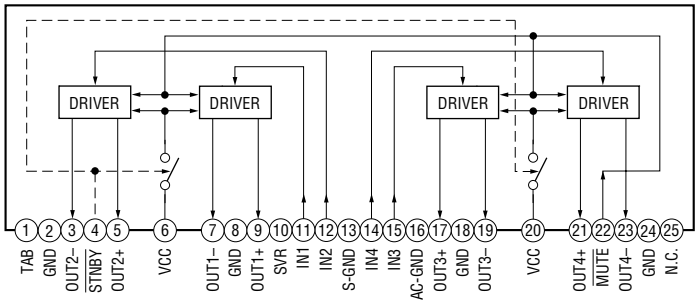
IC2 CXA1782BQ



IC401 LC75374E



IC402 TDA7384

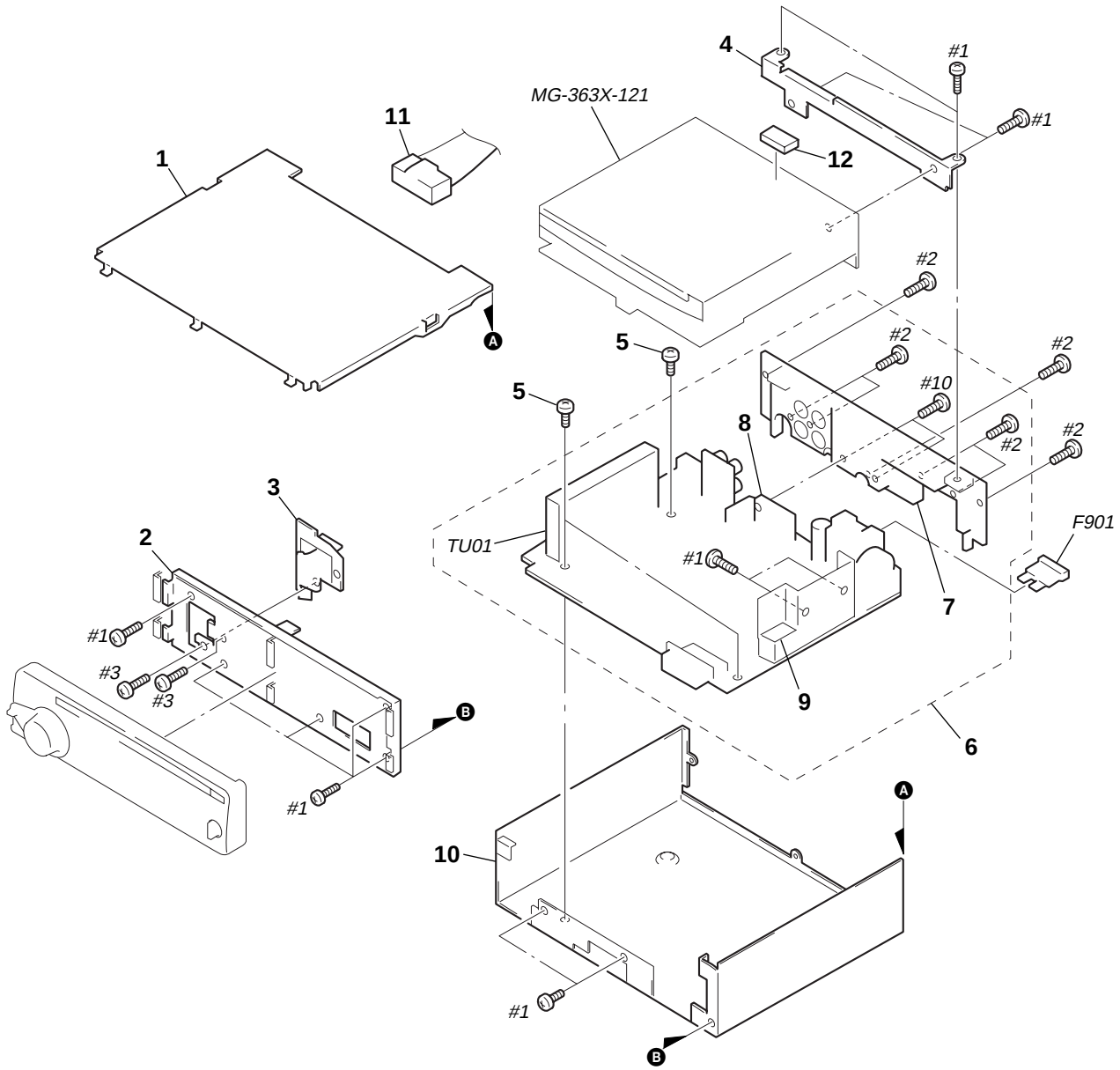


SECTION 5
EXPLODED VIEWS

NOTE:
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Color Indication of Appearance Parts Example:
  KNOB, BALANCE (WHITE) . . . . (RED)
  ↑ ↑
  Parts color Cabinets color
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.

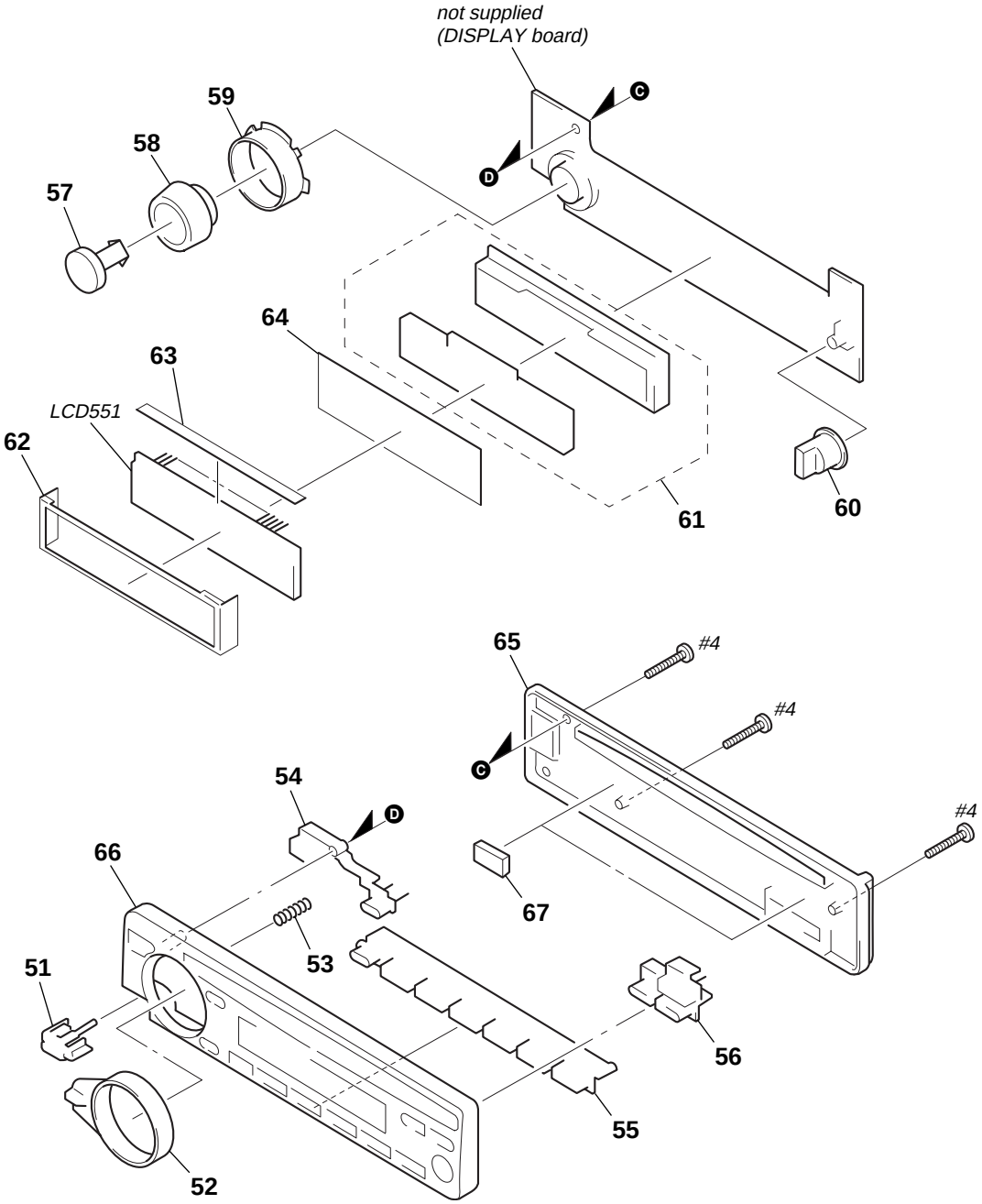
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

5-1. CHASSIS SECTION



Ref. No.	Part No.	Description	Remark
* 1	X-3376-729-1	COVER ASSY	
2	X-3376-728-1	PANEL (1) ASSY, SUB	
3	X-3368-104-2	LOCK ASSY	
* 4	3-030-927-01	BRACKET (MD)	
5	3-922-535-11	SCREW (+BTT)	
* 6	A-3294-643-A	MAIN BOARD, COMPLETE	
* 7	3-030-849-01	HEAT SINK (T)	
* 8	3-019-565-01	BRACKET (IC)	
* 9	3-030-850-01	HEAT SINK (REG)	
* 10	3-030-876-01	CHASSIS	
11	1-769-786-81	CORD (WITH CONNECTOR) (POWER)	
* 12	3-024-285-01	CUSHION (RUBBER)	
F901	1-532-877-11	FUSE (BLADE TYPE) (AUTO FUSE) 10A	
TU01	A-3301-697-A	TUNER ASSY	

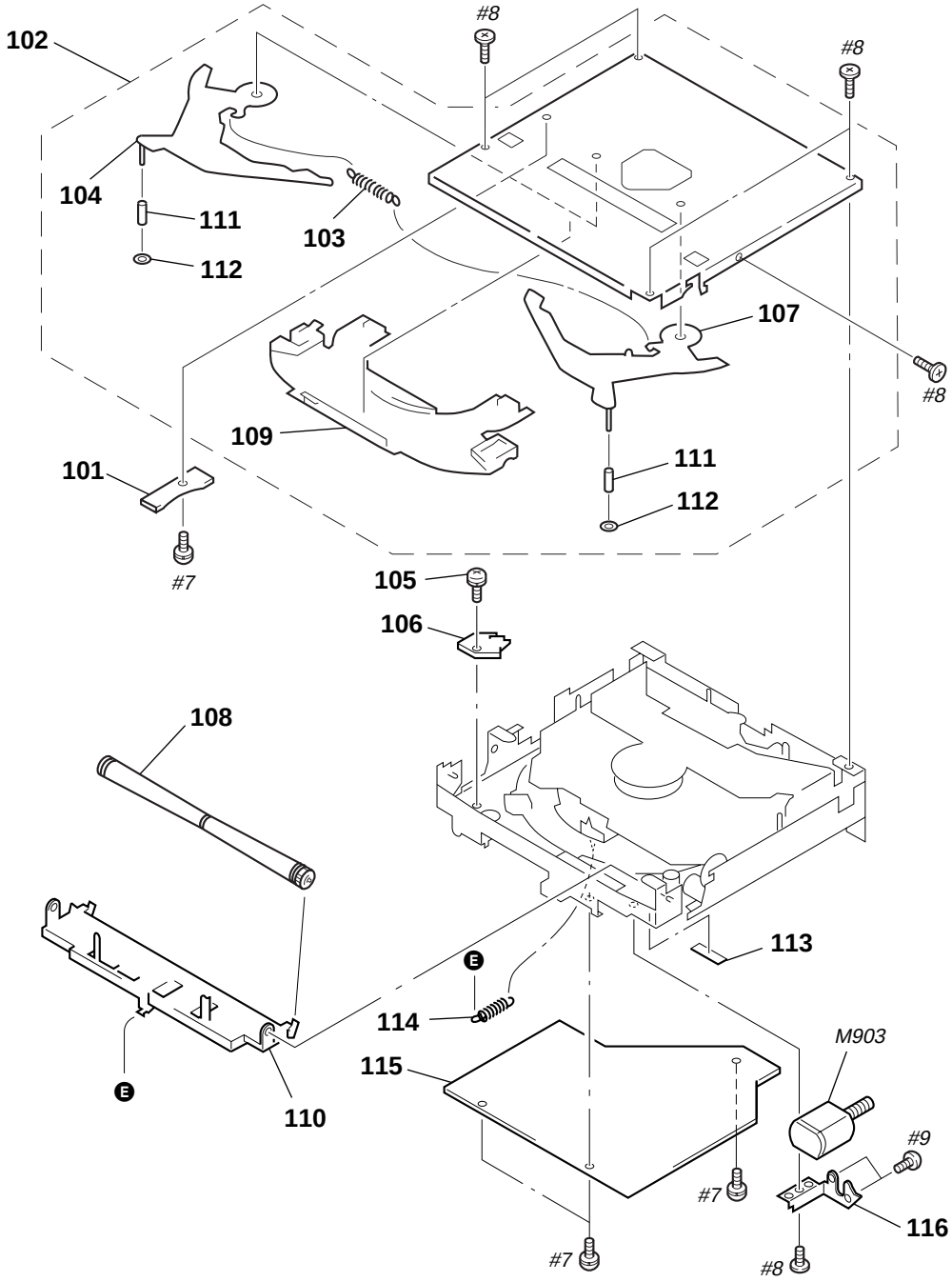
5-2. FRONT PANEL SECTION



Ref. No.	Part No.	Description	Remark
51	3-019-549-22	BUTTON (RELEASE)	
52	3-019-544-23	KNOB (SEEK/AMS)	
53	3-375-373-01	SPRING (RELEASE)	
54	3-019-550-01	BUTTON (MODE/SOUND)	
55	3-019-552-01	BUTTON (1-6)	
56	3-030-873-11	BUTTON (CD EJECT)	
57	3-025-315-02	BUTTON (SOURCE)	
58	3-019-547-01	KNOB (VOL)	
59	3-019-548-01	RING	
60	3-019-543-01	KNOB (D-BASS)	

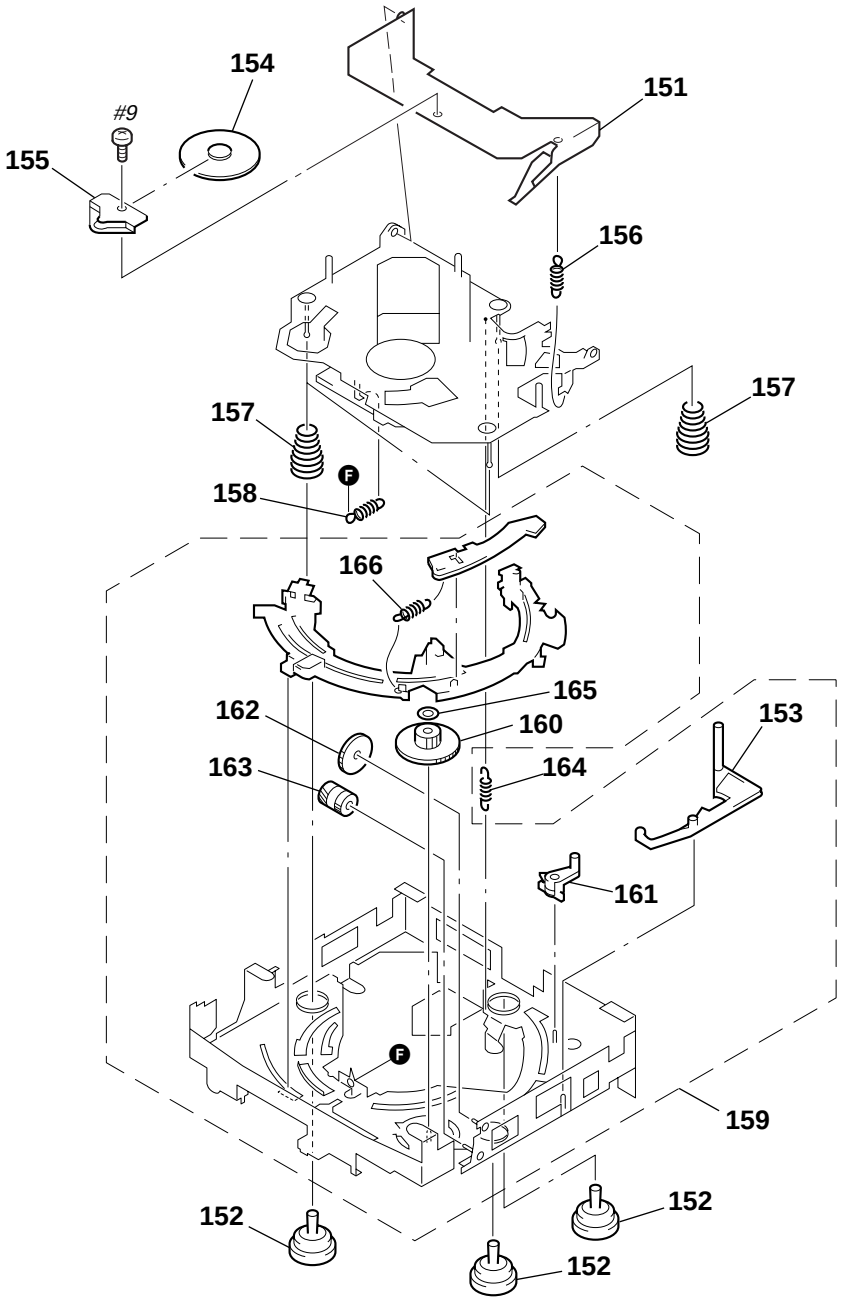
Ref. No.	Part No.	Description	Remark
* 61	X-3376-745-1	HOLDER ASSY, LCD	
* 62	3-019-557-01	PLATE (LCD), GROUND	
63	3-019-558-01	SHEET (D) (LCD)	
* 64	3-019-561-01	SHEET, LCD COLOR	
65	3-030-847-01	PANEL, FRONT BACK	
66	X-3377-071-1	PANEL (S) ASSY, FRONT	
* 67	3-023-946-01	SHEET (H), BACK	
LCD551	1-803-439-21	DISPLAY PANEL, LIQUID CRYSTAL	

5-3. CD MECHANISM SECTION (1) (MG-363X-121)



Ref. No.	Part No.	Description	Remark
* 101	1-659-836-11	DISCIN BOARD	
* 102	A-3291-816-B	CHASSIS (T) SUB ASSY	
103	3-931-909-01	SPRING (LR), TENSION	
104	X-3371-501-1	LEVER (L) ASSY	
105	3-338-737-01	SCREW (2X3), + PS	
* 106	1-659-837-11	LOAD BOARD	
107	X-3371-502-1	LEVER (R) ASSY	
108	A-3301-203-A	ROLLER ASSY	
109	3-931-908-01	GUIDE (DISC)	
110	3-931-902-04	ARM (ROLLER)	
111	3-936-756-01	ROLLER (D)	
112	3-321-393-01	WASHER, STOPPER	
* 113	3-939-139-01	SPACER	
114	3-931-916-01	SPRING (RA), TENSION	
* 115	A-3309-227-A	SERVO BOARD, COMPLETE	
* 116	3-007-530-01	BRACKET (MOTOR)	
M903	A-3291-676-A	MOTOR SUB ASSY, LOADING	

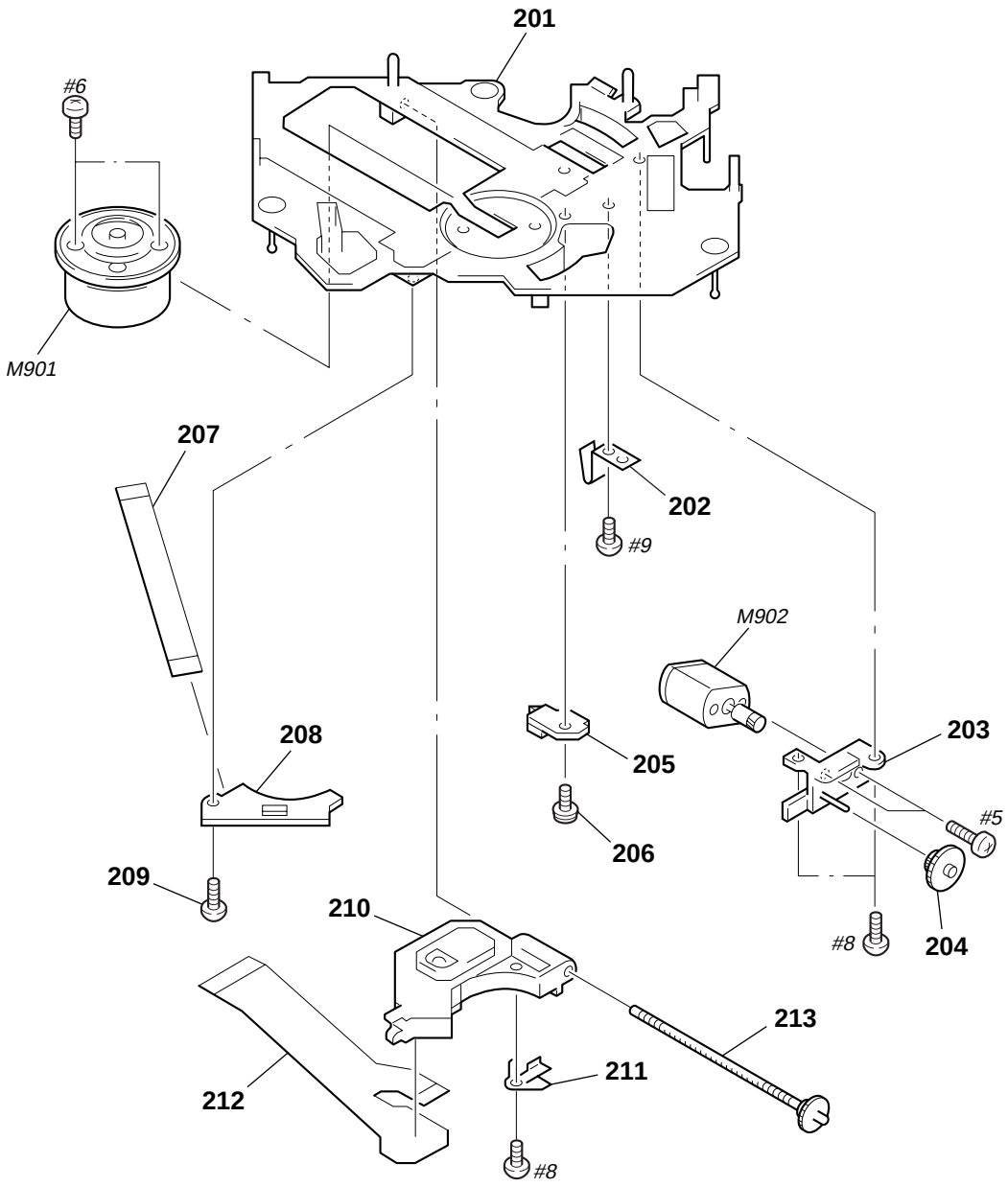
5-4. CD MECHANISM SECTION (2) (MG-363X-121)



Ref. No.	Part No.	Description	Remark
151	3-931-893-01	ARM, CHUCKING	
152	3-931-897-01	DAMPER (T)	
153	3-931-879-02	LEVER (D)	
* 154	3-913-404-11	RETAINER (DISC)	
155	3-931-894-01	BRACKET (CP)	
156	3-931-895-01	SPRING (CH), TENSION	
157	3-931-898-01	SPRING (FL), COMPRESSION	
158	3-032-483-02	SPRING (KF1), TENSION	
* 159	A-3277-802-C	CHASSIS (M) COMPLETE ASSY	

Ref. No.	Part No.	Description	Remark
160	3-014-727-01	WHEEL (LW), WORM	
161	3-931-881-01	LEVER (LOCK)	
162	3-931-882-02	GEAR (MDL)	
163	3-007-537-11	WHEEL (U), WORM	
164	3-032-484-01	SPRING (KR1), TENSION	
165	3-018-272-01	WASHER	
166	3-931-883-01	SPRING (TR), TENSION	

5-5. CD MECHANISM SECTION (3) (MG-363X-121)



The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref. No.	Part No.	Description	Remark
* 201	X-3374-022-1	CHASSIS (OP) (O/S) ASSY	
202	3-931-829-01	SPRING (SL), PLATE	
203	X-3371-504-1	BASE (DRIVING) ASSY	
204	3-931-832-01	GEAR (SL MIDWAY)	
* 205	1-659-835-12	LIMIT BOARD	
206	3-338-737-01	SCREW (2X3), + PS	
207	1-659-880-11	MOTOR FLEXIBLE BOARD	
* 208	1-659-834-11	SUB BOARD	
209	3-909-607-01	SCREW	
⚠210	8-820-010-06	PICK-UP, OPTICAL KSS-521A/K1RP	
211	3-931-834-01	SPRING (FEED), PLATE	
212	1-659-881-11	PICK-UP FLEXIBLE BOARD	
213	A-3291-669-A	SHAFT (FEED) ASSY	
M901	X-3371-664-2	MOTOR ASSY (SPINDLE)	
M902	A-3291-674-A	MOTOR ASSY, SLED	

SECTION 6
ELECTRICAL PARTS LIST

DISCIN **DISPLAY**

Note:

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- RESISTORS
  All resistors are in ohms
  METAL: Metal-film resistor
  METAL OXIDE: Metal Oxide-film resistor
  F : nonflammable
- SEMICONDUCTORS
  In each case, u: µ , for example:
  uA...: µ A..., uPA...: µ PA..., uPB...: µ PB..., uPC...: µ PC..., uPD...: µ PD...
- CAPACITORS
  uF : µ F
- COILS
  uH : µ H

When indicating parts by reference number, please include the board name.

Ref. No.	Part No.	Description			Remark
*	1-659-836-11	DISCIN BOARD			
		**********			
		< SWITCH >			
SW1	1-572-288-21	SWITCH, PUSH			
SW2	1-572-288-21	SWITCH, PUSH			
**********					
		DISPLAY BOARD			
		**********			
*	X-3376-745-1	HOLDER ASSY, LCD			
*	3-019-557-01	PLATE (LCD), GROUND			
	3-019-558-01	SHEET (D) (LCD)			
*	3-019-561-01	SHEET, LCD COLOR			
		< CAPACITOR >			
C551	1-163-137-00	CERAMIC CHIP	680PF	5%	50V
C552	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C553	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
		< CONNECTOR >			
CNP551	1-764-423-11	PIN, CONNECTOR 12P			
		< DIODE >			
D551	8-719-073-15	DIODE SDZ5V1			
D552	8-719-068-68	DIODE SDZ6V2WA			
D554	8-719-068-68	DIODE SDZ6V2WA			
D561	8-719-067-77	DIODE SML-010PT-T86 (SENS)			
D562	8-719-067-77	DIODE SML-010PT-T86 (DSPL)			
D563	8-719-067-77	DIODE SML-010PT-T86 (⏏)			
D564	8-719-067-77	DIODE SML-010PT-T86 (1)			
D565	8-719-067-77	DIODE SML-010PT-T86 (OFF)			
D566	8-719-067-77	DIODE SML-010PT-T86 (SOUND)			
D567	8-719-067-77	DIODE SML-010PT-T86 (SOURCE)			
D568	8-719-067-77	DIODE SML-010PT-T86 (4)			
D569	8-719-067-77	DIODE SML-010PT-T86 (3)			
D570	8-719-067-77	DIODE SML-010PT-T86 (2)			
D571	8-719-067-77	DIODE SML-010PT-T86 (6)			
D572	8-719-067-77	DIODE SML-010PT-T86 (5)			
D573	8-719-067-77	DIODE SML-010PT-T86			
D574	8-719-067-77	DIODE SML-010PT-T86			
D575	8-719-067-77	DIODE SML-010PT-T86			
D576	8-719-067-77	DIODE SML-010PT-T86			
D577	8-719-067-77	DIODE SML-010PT-T86			
D578	8-719-067-77	DIODE SML-010PT-T86			

Ref. No.	Part No.	Description			Remark
		< IC >			
IC551	8-759-369-90	IC LC75822ED			
IC552	8-749-015-73	IC RPM6940-V4			
		< JUMPER RESISTOR >			
JR511	1-216-296-00	SHORT	0		
JR512	1-216-296-00	SHORT	0		
JR513	1-216-296-00	SHORT	0		
JR514	1-216-296-00	SHORT	0		
JR515	1-216-296-00	SHORT	0		
JR516	1-216-296-00	SHORT	0		
		< LIQUID CRYSTAL DISPLAY >			
LCD551	1-803-439-21	DISPLAY PANEL, LIQUID CRYSTAL			
		< PILOT LAMP >			
PL551	1-517-665-21	LAMP PILOT			
PL552	1-517-665-21	LAMP PILOT			
		< RESISTOR >			
R551	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R552	1-216-206-00	RES,CHIP	2.2K	5%	1/8W
R553	1-216-206-00	RES,CHIP	2.2K	5%	1/8W
R554	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R555	1-216-210-00	RES,CHIP	3.3K	5%	1/8W
R556	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R557	1-216-218-00	RES,CHIP	6.8K	5%	1/8W
R558	1-216-073-00	METAL CHIP	10K	5%	1/10W
R559	1-216-226-00	RES,CHIP	15K	5%	1/8W
R561	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R562	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R563	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R564	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R565	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R566	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R567	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R568	1-216-073-00	METAL CHIP	10K	5%	1/10W
R569	1-216-077-00	METAL CHIP	15K	5%	1/10W
R581	1-216-090-00	METAL CHIP	51K	5%	1/10W
R582	1-216-045-00	METAL CHIP	680	5%	1/10W
R584	1-216-189-00	RES,CHIP	430	5%	1/8W
R585	1-216-186-00	RES,CHIP	330	5%	1/8W
R586	1-216-189-00	RES,CHIP	430	5%	1/8W
R587	1-216-186-00	RES,CHIP	330	5%	1/8W
R588	1-216-186-00	RES,CHIP	330	5%	1/8W

DISPLAY **LIMIT** **LOAD** **MAIN**

Ref. No.	Part No.	Description			Remark
R591	1-216-182-00	RES,CHIP	220	5%	1/8W
R592	1-216-182-00	RES,CHIP	220	5%	1/8W
R593	1-216-182-00	RES,CHIP	220	5%	1/8W
R594	1-216-182-00	RES,CHIP	220	5%	1/8W
R595	1-216-182-00	RES,CHIP	220	5%	1/8W
R596	1-216-182-00	RES,CHIP	220	5%	1/8W
R597	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R598	1-216-206-00	RES,CHIP	2.2K	5%	1/8W
		< ROTARY ENCODER >			
RE551	1-475-014-11	ENCODER, ROTARY			
		< SWITCH >			
S551	1-572-704-31	SWITCH, KEY BOARD (⏏)			
S552	1-572-704-31	SWITCH, KEY BOARD (DSPL)			
S553	1-572-704-31	SWITCH, KEY BOARD (SENS)			
S554	1-572-704-31	SWITCH, KEY BOARD (SOUND)			
S555	1-762-719-21	SWITCH, TACT (MODE)			
S556	1-771-290-11	SWITCH, SLIDE (SEEK/AMS ⏮ ◀◀ -/▶▶⏭ ▶▶ +)			
S557	1-572-704-31	SWITCH, KEY BOARD (1)			
S558	1-572-704-31	SWITCH, KEY BOARD (2)			
S561	1-572-704-31	SWITCH, KEY BOARD (OFF)			
S562	1-572-704-31	SWITCH, KEY BOARD (SOURCE)			
S563	1-572-704-31	SWITCH, KEY BOARD (3)			
S564	1-572-704-31	SWITCH, KEY BOARD (4)			
S565	1-572-704-31	SWITCH, KEY BOARD (5)			
S566	1-572-704-31	SWITCH, KEY BOARD (6)			
S567	1-762-937-11	SWITCH, ROTARY (D-BASS)			
**********					
*	1-659-835-12	LIMIT BOARD **********			
		< SWITCH >			
SW3	1-572-688-11	SWITCH, PUSH (1 KEY)			
**********					
*	1-659-837-11	LOAD BOARD **********			
		< SWITCH >			
SW4	1-572-288-21	SWITCH, PUSH			
**********					
*	A-3294-643-A	MAIN BOARD, COMPLETE **********			
*	3-019-565-01	BRACKET (IC)			
*	3-030-849-01	HEAT SINK (T)			
*	3-030-850-01	HEAT SINK (REG)			
	7-685-792-09	SCREW +PTT 2.6X6 (S)			
	7-685-793-09	SCREW +PTT 2.6X8 (S)			
	7-685-794-09	SCREW +PTT 2.6X10 (S)			
		< CAPACITOR >			
C101	1-163-007-11	CERAMIC CHIP	680PF	10%	50V
C102	1-162-587-11	CERAMIC CHIP	0.039uF	10%	25V
C103	1-164-346-11	CERAMIC CHIP	1uF		16V
C104	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C105	1-124-233-11	ELECT	10uF	20%	16V
C106	1-124-233-11	ELECT	10uF	20%	16V
C107	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C108	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C109	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C110	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C111	1-164-346-11	CERAMIC CHIP	1uF		16V
C112	1-164-346-11	CERAMIC CHIP	1uF		16V
C113	1-164-182-11	CERAMIC CHIP	0.0033uF	10%	50V
C114	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C115	1-124-233-11	ELECT	10uF	20%	16V
C116	1-164-492-11	CERAMIC CHIP	0.15uF	10%	16V
C117	1-164-492-11	CERAMIC CHIP	0.15uF	10%	16V
C118	1-124-233-11	ELECT	10uF	20%	16V
C201	1-163-007-11	CERAMIC CHIP	680PF	10%	50V
C202	1-162-587-11	CERAMIC CHIP	0.039uF	10%	25V
C203	1-164-346-11	CERAMIC CHIP	1uF		16V
C205	1-124-233-11	ELECT	10uF	20%	16V
C206	1-124-233-11	ELECT	10uF	20%	16V
C207	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C208	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C209	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C210	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C211	1-164-346-11	CERAMIC CHIP	1uF		16V
C212	1-164-346-11	CERAMIC CHIP	1uF		16V
C213	1-164-182-11	CERAMIC CHIP	0.0033uF	10%	50V
C214	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C215	1-124-233-11	ELECT	10uF	20%	16V
C216	1-164-492-11	CERAMIC CHIP	0.15uF	10%	16V
C217	1-164-492-11	CERAMIC CHIP	0.15uF	10%	16V
C218	1-124-233-11	ELECT	10uF	20%	16V
C401	1-124-233-11	ELECT	10uF	20%	16V
C405	1-126-514-11	ELECT	22uF	20%	16V
C407	1-124-259-11	ELECT	4.7uF	20%	16V
C408	1-164-346-11	CERAMIC CHIP	1uF		16V
C409	1-163-109-00	CERAMIC CHIP	47PF	5%	50V
C410	1-126-786-11	ELECT	47uF	20%	16V
C411	1-124-465-00	ELECT	0.47uF	20%	50V
C412	1-164-346-11	CERAMIC CHIP	1uF		16V
C413	1-124-589-11	ELECT	47uF	20%	16V
C414	1-164-346-11	CERAMIC CHIP	1uF		16V
C601	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C602	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C603	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C604	1-126-514-11	ELECT	22uF	20%	16V
C605	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C606	1-126-786-11	ELECT	47uF	20%	16V
C607	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C609	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C610	1-124-233-11	ELECT	10uF	20%	16V
C611	1-124-464-11	ELECT	0.22uF	20%	50V
C612	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V
C613	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C614	1-163-022-00	CERAMIC CHIP	0.012uF	10%	50V
C615	1-163-022-00	CERAMIC CHIP	0.012uF	10%	50V

Ref. No.	Part No.	Description			Remark
C617	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C619	1-163-020-00	CERAMIC CHIP	0.0082uF	10%	50V
C625	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C701	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C702	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C703	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C704	1-124-233-11	ELECT	10uF	20%	16V
C705	1-124-589-11	ELECT	47uF	20%	16V
C708	1-124-233-11	ELECT	10uF	20%	16V
C709	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C712	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C713	1-163-239-11	CERAMIC CHIP	33PF	5%	50V
C714	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C801	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C802	1-163-205-00	CERAMIC CHIP	0.001uF	5%	50V
C804	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C805	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C807	1-163-233-11	CERAMIC CHIP	18PF	5%	50V
C808	1-163-234-11	CERAMIC CHIP	20PF	5%	50V
C814	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C830	1-164-222-11	CERAMIC CHIP	0.22uF		25V
C831	1-163-077-00	CERAMIC CHIP	0.1uF	10%	25V
C901	1-124-257-00	ELECT	2.2uF	20%	50V
C902	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C903	1-124-257-00	ELECT	2.2uF	20%	50V
C904	1-110-654-11	ELECT(BLOCK)	0.047F	0%	0
C907	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C908	1-124-465-00	ELECT	0.47uF	20%	50V
C909	1-126-768-11	ELECT	2200uF	20%	16V
C910	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C911	1-124-259-11	ELECT	4.7uF	20%	16V
C913	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C915	1-126-162-11	ELECT	3.3uF	20%	50V
C916	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
		< CONNECTOR >			
CNJ601	1-785-006-11	JACK (ANT)			
CNP701	1-764-617-12	PIN, CONNECTOR (PC BOARD) 30P			
CNP801	1-764-422-11	PLUG, CONNECTOR 12P			
CNP901	1-774-701-11	PIN, CONNECTOR 16P			
		< COMPOSITION CIRCUIT BLOCK >			
CP601	1-519-504-11	GAP, DISCHARGE			
		< DIODE >			
D401	8-719-109-71	DIODE RD3.9ES-B1			
D402	8-719-991-33	DIODE 1SS133T-77			
D604	8-719-991-33	DIODE 1SS133T-77			
D701	8-719-991-33	DIODE 1SS133T-77			
D801	8-719-109-93	DIODE RD6.2ESB2			
D802	8-719-109-93	DIODE RD6.2ESB2			
D803	8-719-109-93	DIODE RD6.2ESB2			
D804	8-719-109-93	DIODE RD6.2ESB2			
D805	8-719-109-93	DIODE RD6.2ESB2			
D806	8-719-109-93	DIODE RD6.2ESB2			
D807	8-719-109-93	DIODE RD6.2ESB2			
D808	8-719-109-93	DIODE RD6.2ESB2			

Ref. No.	Part No.	Description			Remark
D809	8-719-109-93	DIODE RD6.2ESB2			
D811	8-719-991-33	DIODE 1SS133T-77			
D812	8-719-923-91	DIODE MTZJ-T-11-16A			
D901	8-719-929-15	DIODE MTZJ-T-77-9.1B			
D902	8-719-929-15	DIODE MTZJ-T-77-9.1B			
D903	8-719-109-89	DIODE RD5.6ESB2			
D904	8-719-109-89	DIODE RD5.6ESB2			
D905	8-719-109-93	DIODE RD6.2ESB2			
D906	8-719-923-91	DIODE MTZJ-T-77-16A			
D907	8-719-049-38	DIODE 1N5404TU			
D908	8-719-200-82	DIODE 11ES2			
D910	8-719-109-93	DIODE RD6.2ESB2			
D911	8-719-991-33	DIODE 1SS133T-77			
D921	8-719-109-97	DIODE RD6.8ES-B2			
		< IC >			
IC401	8-759-487-82	IC LC75374E			
IC402	8-759-490-74	IC TDA7384			
IC701	8-759-464-81	IC PCM1717E-ST2			
IC801	8-759-572-09	IC uPD17705GC-534-3B9			
		< JUMPER RESISTOR >			
JR1	1-216-295-00	SHORT	0		
JR2	1-216-295-00	SHORT	0		
JR3	1-216-295-00	SHORT	0		
JR3	1-216-296-00	SHORT	0		
JR4	1-216-296-00	SHORT	0		
JR4	1-216-864-11	METAL CHIP	0	5%	1/16W
JR5	1-216-295-00	SHORT	0		
JR5	1-216-296-00	SHORT	0		
JR6	1-216-295-00	SHORT	0		
JR7	1-216-296-00	SHORT	0		
JR7	1-216-864-11	METAL CHIP	0	5%	1/16W
JR8	1-216-864-11	METAL CHIP	0	5%	1/16W
JR9	1-216-864-11	METAL CHIP	0	5%	1/16W
JR10	1-216-864-11	METAL CHIP	0	5%	1/16W
JR11	1-216-296-00	SHORT	0		
JR11	1-216-864-11	METAL CHIP	0	5%	1/16W
JR12	1-216-295-00	SHORT	0		
JR16	1-216-295-00	SHORT	0		
JR17	1-216-296-00	SHORT	0		
JR18	1-216-295-00	SHORT	0		
JR19	1-216-296-00	SHORT	0		
JR22	1-216-295-00	SHORT	0		
JR24	1-216-295-00	SHORT	0		
JR31	1-216-296-00	SHORT	0		
JR33	1-216-295-00	SHORT	0		
JR35	1-216-296-00	SHORT	0		
JR36	1-216-296-00	SHORT	0		
JR37	1-216-296-00	SHORT	0		
JR39	1-216-295-00	SHORT	0		
JR45	1-216-296-00	SHORT	0		
JR46	1-216-296-00	SHORT	0		
JR47	1-216-296-00	SHORT	0		
JR48	1-216-295-00	SHORT	0		
JR60	1-216-295-00	SHORT	0		
JR90	1-216-295-00	SHORT	0		

MAIN

Ref. No.	Part No.	Description			Remark
		< COIL >			
L601	1-414-137-31	INDUCTOR	0.22uH		
L602	1-410-521-11	INDUCTOR	100uH		
L801	1-410-513-11	INDUCTOR	22uH		
L901	1-416-539-11	INDUCTOR	370uH		
		< JACK >			
PJ401	1-785-628-11	JACK, PIN 4P (LINE OUT)			
		< TRANSISTOR >			
Q101	8-729-920-21	TRANSISTOR	DTC314TKH04		
Q102	8-729-920-21	TRANSISTOR	DTC314TKH04		
Q201	8-729-920-21	TRANSISTOR	DTC314TKH04		
Q202	8-729-920-21	TRANSISTOR	DTC314TKH04		
Q401	8-729-027-52	TRANSISTOR	DTC124EKA-T146		
Q402	8-729-901-05	TRANSISTOR	DTA124EK		
Q601	8-729-030-51	TRANSISTOR	2SA1515S-R-TP		
Q602	8-729-030-51	TRANSISTOR	2SA1515S-R-TP		
Q605	8-729-620-06	TRANSISTOR	2SC3052-EF		
Q606	8-729-620-06	TRANSISTOR	2SC3052-EF		
Q801	8-729-027-43	TRANSISTOR	DTC114EKA-T146		
Q901	8-729-019-00	TRANSISTOR	2SD2394-G		
Q902	8-729-901-05	TRANSISTOR	DTA124EK		
Q904	8-729-015-11	TRANSISTOR	2SD1802FAST-TL		
Q905	8-729-027-43	TRANSISTOR	DTC114EKA-T146		
Q906	8-729-901-05	TRANSISTOR	DTA124EK		
Q907	8-729-019-00	TRANSISTOR	2SD2394-G		
Q908	8-729-027-43	TRANSISTOR	DTC114EKA-T146		
Q909	8-729-027-43	TRANSISTOR	DTC114EKA-T146		
Q910	8-729-920-85	TRANSISTOR	2SD1664-QR		
Q911	8-729-620-06	TRANSISTOR	2SC3052-EF		
Q912	8-729-620-06	TRANSISTOR	2SC3052-EF		
Q913	8-729-027-43	TRANSISTOR	DTC114EKA-T146		
Q915	8-729-822-84	TRANSISTOR	2SB1202FAST		
Q916	8-729-027-43	TRANSISTOR	DTC114EKA-T146		
Q917	8-729-101-07	TRANSISTOR	2SB798-DL		
Q918	8-729-027-43	TRANSISTOR	DTC114EKA-T146		
		< RESISTOR >			
R101	1-216-071-00	METAL CHIP	8.2K	5%	1/10W
R102	1-216-073-00	METAL CHIP	10K	5%	1/10W
R103	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R104	1-216-214-00	RES,CHIP	4.7K	5%	1/8W
R105	1-216-049-11	RES,CHIP	1K	5%	1/10W
R106	1-216-049-11	RES,CHIP	1K	5%	1/10W
R107	1-216-077-00	METAL CHIP	15K	5%	1/10W
R108	1-216-077-00	METAL CHIP	15K	5%	1/10W
R109	1-216-129-00	METAL CHIP	2.2M	5%	1/10W
R110	1-216-129-00	METAL CHIP	2.2M	5%	1/10W
R111	1-216-079-00	METAL CHIP	18K	5%	1/10W
R112	1-216-079-00	METAL CHIP	18K	5%	1/10W
R113	1-216-059-00	METAL CHIP	2.7K	5%	1/10W
R201	1-216-071-00	METAL CHIP	8.2K	5%	1/10W
R202	1-216-073-00	METAL CHIP	10K	5%	1/10W
R203	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R204	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R205	1-216-049-11	RES,CHIP	1K	5%	1/10W
R206	1-216-049-11	RES,CHIP	1K	5%	1/10W
R207	1-216-077-00	METAL CHIP	15K	5%	1/10W
R208	1-216-077-00	METAL CHIP	15K	5%	1/10W
R209	1-216-129-00	METAL CHIP	2.2M	5%	1/10W
R210	1-216-129-00	METAL CHIP	2.2M	5%	1/10W
R211	1-216-079-00	METAL CHIP	18K	5%	1/10W
R212	1-216-079-00	METAL CHIP	18K	5%	1/10W
R213	1-216-059-00	METAL CHIP	2.7K	5%	1/10W
R401	1-216-113-00	METAL CHIP	470K	5%	1/10W
R402	1-216-049-11	RES,CHIP	1K	5%	1/10W
R601	1-216-221-00	RES,CHIP	9.1K	5%	1/8W
R602	1-249-417-11	CARBON	1K	5%	1/4W F
R603	1-249-417-11	CARBON	1K	5%	1/4W F
R607	1-216-025-00	RES,CHIP	100	5%	1/10W
R608	1-216-081-00	METAL CHIP	22K	5%	1/10W
R611	1-216-049-11	RES,CHIP	1K	5%	1/10W
R612	1-216-097-00	RES,CHIP	100K	5%	1/10W
R613	1-216-049-11	RES,CHIP	1K	5%	1/10W
R614	1-216-097-00	RES,CHIP	100K	5%	1/10W
R615	1-249-429-11	CARBON	10K	5%	1/4W
R616	1-249-417-11	CARBON	1K	5%	1/4W F
R617	1-216-049-11	RES,CHIP	1K	5%	1/10W
R618	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R620	1-247-807-11	CARBON	100	5%	1/4W F
R622	1-216-081-00	METAL CHIP	22K	5%	1/10W
R701	1-216-025-00	RES,CHIP	100	5%	1/10W
R702	1-216-025-00	RES,CHIP	100	5%	1/10W
R703	1-216-025-00	RES,CHIP	100	5%	1/10W
R704	1-216-033-00	METAL CHIP	220	5%	1/10W
R706	1-216-037-00	METAL CHIP	330	5%	1/10W
R707	1-216-027-00	METAL CHIP	120	5%	1/10W
R801	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R803	1-216-105-00	RES,CHIP	220K	5%	1/10W
R804	1-216-105-00	RES,CHIP	220K	5%	1/10W
R805	1-216-105-00	RES,CHIP	220K	5%	1/10W
R806	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R807	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R808	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R809	1-216-073-00	METAL CHIP	10K	5%	1/10W
R810	1-216-105-00	RES,CHIP	220K	5%	1/10W
R812	1-216-073-00	METAL CHIP	10K	5%	1/10W
R813	1-216-073-00	METAL CHIP	10K	5%	1/10W
R814	1-216-049-11	RES,CHIP	1K	5%	1/10W
R815	1-216-049-11	RES,CHIP	1K	5%	1/10W
R816	1-216-105-00	RES,CHIP	220K	5%	1/10W
R817	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R818	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R819	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R820	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R821	1-249-417-11	CARBON	1K	5%	1/4W F
R822	1-249-417-11	CARBON	1K	5%	1/4W F
R823	1-216-049-11	RES,CHIP	1K	5%	1/10W
R824	1-216-105-00	RES,CHIP	220K	5%	1/10W
R825	1-216-105-00	RES,CHIP	220K	5%	1/10W
R826	1-216-105-00	RES,CHIP	220K	5%	1/10W
R827	1-216-234-00	RES,CHIP	33K	5%	1/8W
R828	1-216-254-00	RES,CHIP	220K	5%	1/8W

Ref. No.	Part No.	Description			Remark
R829	1-216-254-00	RES,CHIP	220K	5%	1/8W
R830	1-216-254-00	RES,CHIP	220K	5%	1/8W
R831	1-216-089-00	RES,CHIP	47K	5%	1/10W
R832	1-216-073-00	METAL CHIP	10K	5%	1/10W
R833	1-216-049-11	RES,CHIP	1K	5%	1/10W
R834	1-216-049-11	RES,CHIP	1K	5%	1/10W
R836	1-216-049-11	RES,CHIP	1K	5%	1/10W
R837	1-249-441-11	CARBON	100K	5%	1/4W
R839	1-216-049-11	RES,CHIP	1K	5%	1/10W
R840	1-216-105-00	RES,CHIP	220K	5%	1/10W
R841	1-216-105-00	RES,CHIP	220K	5%	1/10W
R843	1-216-109-00	METAL CHIP	330K	5%	1/10W
R844	1-216-117-00	METAL CHIP	680K	5%	1/10W
R845	1-249-429-11	CARBON	10K	5%	1/4W
R852	1-216-025-00	RES,CHIP	100	5%	1/10W
R901	1-216-182-00	RES,CHIP	220	5%	1/8W
R902	1-216-182-00	RES,CHIP	220	5%	1/8W
R903	1-216-182-00	RES,CHIP	220	5%	1/8W
R904	1-249-395-11	CARBON	15	5%	1/4W F
R905	1-216-077-00	METAL CHIP	15K	5%	1/10W
R906	1-216-079-00	METAL CHIP	18K	5%	1/10W
R907	1-216-079-00	METAL CHIP	18K	5%	1/10W
R908	1-216-089-00	RES,CHIP	47K	5%	1/10W
R909	1-216-105-00	RES,CHIP	220K	5%	1/10W
R911	1-216-296-00	SHORT	0		
R912	1-216-049-11	RES,CHIP	1K	5%	1/10W
R913	1-247-839-11	CARBON	2.2K	5%	1/4W F
R916	1-216-077-00	METAL CHIP	15K	5%	1/10W
R917	1-216-049-11	RES,CHIP	1K	5%	1/10W
R918	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R919	1-216-105-00	RES,CHIP	220K	5%	1/10W

< SWITCH >

S801	1-762-638-11	SWITCH, TACTILE (RESET)
S802	1-571-478-11	SWITCH, SLIDE (FREQUENCY SELECT)

< THERMISTOR >

TH901	1-809-148-11	THERMISTOR PTH8L07AR2R0M1B510

< TUNER >

TU01	A-3301-697-A	TUNER ASSY

< VIBRATOR >

X701	1-579-345-11	VIBRATOR, CERAMIC (16.9MHz)
X801	1-760-223-11	VIBRATOR, CRYSTAL (4.5MHz)

****

*	A-3309-227-A	SERVO BOARD, COMPLETE

****

< CAPACITOR >

C1	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C2	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C3	1-135-145-11	TANTALUM CHIP	0.47uF	10%	35V
C4	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C5	1-164-182-11	CERAMIC CHIP	0.0033uF	10%	50V
C6	1-163-011-11	CERAMIC CHIP	0.0015uF	10%	50V
C7	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C9	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C10	1-126-206-11	ELECT CHIP	100uF	20%	6.3V
C11	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C12	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C13	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C14	1-163-989-11	CERAMIC CHIP	0.033uF	10%	25V
C15	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C16	1-163-989-11	CERAMIC CHIP	0.033uF	10%	25V
C17	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C18	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C19	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C20	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C21	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C22	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C23	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C24	1-163-125-00	CERAMIC CHIP	220PF	5%	50V
C25	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C26	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C27	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C28	1-163-023-00	CERAMIC CHIP	0.015uF	5%	50V
C29	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C30	1-126-603-11	ELECT CHIP	4.7uF	20%	35V
C31	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C32	1-163-023-00	CERAMIC CHIP	0.015uF	5%	50V
C33	1-124-779-00	ELECT CHIP	10uF	20%	16V
C34	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C35	1-163-021-11	CERAMIC CHIP	0.01uF	10%	50V
C36	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C37	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C38	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C39	1-126-204-11	ELECT CHIP	47uF	20%	16V
C40	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V

< CONNECTOR >

CN1	1-764-616-12	HOUSING,CONNECTOR(PC BOARD)30P
CN2	1-565-728-51	CONNECTOR, FPC 17P
CN3	1-770-347-21	CONNECTOR, FPC 6P

< IC >

IC1	8-752-372-94	IC CXD2507AQ
IC2	8-752-074-34	IC CXA1782BQ
IC3	8-759-354-16	IC BA6796FP-T1

< JUMPER RESISTOR >

JR1	1-216-296-00	SHORT	0
JR2	1-216-296-00	SHORT	0
JR3	1-216-296-00	SHORT	0
JR4	1-216-296-00	SHORT	0
JR5	1-216-296-00	SHORT	0
JR6	1-216-296-00	SHORT	0
JR7	1-216-296-00	SHORT	0
JR8	1-216-296-00	SHORT	0
JR9	1-216-296-00	SHORT	0
JR10	1-216-296-00	SHORT	0
JR11	1-216-296-00	SHORT	0
JR12	1-216-296-00	SHORT	0

SERVO **SUB**

Ref. No.	Part No.	Description				Remark
JR13	1-216-296-00	SHORT	0			
JR14	1-216-296-00	SHORT	0			
JR15	1-216-296-00	SHORT	0			
JR16	1-216-296-00	SHORT	0			
JR17	1-216-296-00	SHORT	0			
JR18	1-216-296-00	SHORT	0			
JR19	1-216-296-00	SHORT	0			
JR20	1-216-296-00	SHORT	0			
JR21	1-216-296-00	SHORT	0			
JR22	1-216-296-00	SHORT	0			
JR23	1-216-296-00	SHORT	0			
JR24	1-216-296-00	SHORT	0			
JR25	1-216-296-00	SHORT	0			
JR26	1-216-296-00	SHORT	0			
JR27	1-216-296-00	SHORT	0			
JR28	1-216-296-00	SHORT	0			
JR29	1-216-296-00	SHORT	0			
JR30	1-216-296-00	SHORT	0			
JR31	1-216-296-00	SHORT	0			
JR32	1-216-296-00	SHORT	0			
JR33	1-216-296-00	SHORT	0			
JR34	1-216-296-00	SHORT	0			
JR35	1-216-296-00	SHORT	0			
JR36	1-216-296-00	SHORT	0			
JR37	1-216-296-00	SHORT	0			
JR38	1-216-296-00	SHORT	0			
JR39	1-216-296-00	SHORT	0			
JR40	1-216-296-00	SHORT	0			
JR41	1-216-296-00	SHORT	0			
JR43	1-216-296-00	SHORT	0			
JR44	1-216-296-00	SHORT	0			
JR45	1-216-296-00	SHORT	0			
JR46	1-216-296-00	SHORT	0			
		< COIL >				
L1	1-412-058-11	INDUCTOR CHIP	10uH			
L2	1-412-058-11	INDUCTOR CHIP	10uH			
L3	1-412-058-11	INDUCTOR CHIP	10uH			
		< TRANSISTOR >				
Q1	8-729-904-60	TRANSISTOR	DTB113ZK			
Q2	8-729-904-86	TRANSISTOR	2SB1197K-Q			
		< RESISTOR >				
R1	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R2	1-216-097-00	RES,CHIP	100K	5%	1/10W	
R3	1-216-121-00	RES,CHIP	1M	5%	1/10W	
R4	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	
R5	1-216-061-00	METAL CHIP	3.3K	5%	1/10W	
R6	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R7	1-216-009-00	RES,CHIP	22	5%	1/10W	
R8	1-216-119-00	METAL CHIP	820K	5%	1/10W	
R9	1-216-119-00	METAL CHIP	820K	5%	1/10W	
R10	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R11	1-216-073-00	METAL CHIP	10K	5%	1/10W	
R14	1-216-085-00	METAL CHIP	33K	5%	1/10W	
R15	1-216-085-00	METAL CHIP	33K	5%	1/10W	
R16	1-216-077-00	METAL CHIP	15K	5%	1/10W	

Ref. No.	Part No.	Description			Remark
R17	1-216-081-00	METAL CHIP	22K	5%	1/10W
R19	1-216-079-00	METAL CHIP	18K	5%	1/10W
R20	1-216-105-00	RES,CHIP	220K	5%	1/10W
R21	1-216-105-00	RES,CHIP	220K	5%	1/10W
R22	1-216-085-00	METAL CHIP	33K	5%	1/10W
R23	1-216-121-00	RES,CHIP	1M	5%	1/10W
R24	1-216-073-00	METAL CHIP	10K	5%	1/10W
R27	1-216-295-00	SHORT	0		
R28	1-216-101-00	METAL CHIP	150K	5%	1/10W
R29	1-216-097-00	RES,CHIP	100K	5%	1/10W
R30	1-216-097-00	RES,CHIP	100K	5%	1/10W
R31	1-216-081-00	METAL CHIP	22K	5%	1/10W
R32	1-216-109-00	METAL CHIP	330K	5%	1/10W
R33	1-216-105-00	RES,CHIP	220K	5%	1/10W
R34	1-216-009-00	RES,CHIP	22	5%	1/10W
R35	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R36	1-216-097-00	RES,CHIP	100K	5%	1/10W
R37	1-216-117-00	METAL CHIP	680K	5%	1/10W
R38	1-216-109-00	METAL CHIP	330K	5%	1/10W
R39	1-216-101-00	METAL CHIP	150K	5%	1/10W
R40	1-216-114-00	RES,CHIP	510K	5%	1/10W
R41	1-216-093-11	RES,CHIP	68K	5%	1/10W
R42	1-216-103-00	METAL CHIP	180K	5%	1/10W
R43	1-216-097-00	RES,CHIP	100K	5%	1/10W
R44	1-216-085-00	METAL CHIP	33K	5%	1/10W
R45	1-216-081-00	METAL CHIP	22K	5%	1/10W
R45	1-216-089-00	RES,CHIP	47K	5%	1/10W
R46	1-216-097-00	RES,CHIP	100K	5%	1/10W
R47	1-216-105-00	RES,CHIP	220K	5%	1/10W
R48	1-216-073-00	METAL CHIP	10K	5%	1/10W
R49	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R50	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R51	1-216-295-00	SHORT	0		
		< VARIABLE RESISTOR >			
RV1	1-238-091-11	RES, ADJ, CERMET 22K			
RV4	1-238-091-11	RES, ADJ, CERMET 22K			

****

*	1-659-834-11	SUB BOARD	
		*********	
		< CONNECTOR >	
CN1	1-770-347-21	CONNECTOR, FPC 6P	

****

		MISCELLANEOUS	
		**********	
11	1-769-786-81	CORD (WITH CONNECTOR)	
⚠210	8-820-010-06	PICK-UP, OPTICAL KSS-521A/K1RP	
258	1-769-786-81	CORD (WITH CONNECTOR)	
F901	1-532-877-11	FUSE (BLADE TYPE) (AUTO FUSE) 10A	
LCD551	1-803-439-21	DISPLAY PANEL, LIQUID CRYSTAL	
M901	X-3371-664-2	MOTOR ASSY (SPINDLE)	
M902	A-3291-674-A	MOTOR ASSY, SLED	
M903	A-3291-676-A	MOTOR SUB ASSY, LOADING	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref. No.	Part No.	Description	Remark
TU01	A-3301-697-A	TUNER ASSY	

****

ACCESSORIES & PACKING MATERIALS
****

	1-418-280-11	REMOTE COMMANDER (RM-X49)
	3-865-649-31	MANUAL, INSTRUCTION (ENGLISH,SPANISH,CHINESE)
	3-865-651-21	MANUAL, INSTRUCTION, INSTALL (ENGLISH,SPANISH,CHINESE)
	9-939-196-01	BATTERY LID (for RM-X49)
	X-3374-810-1	CASE ASSY

****

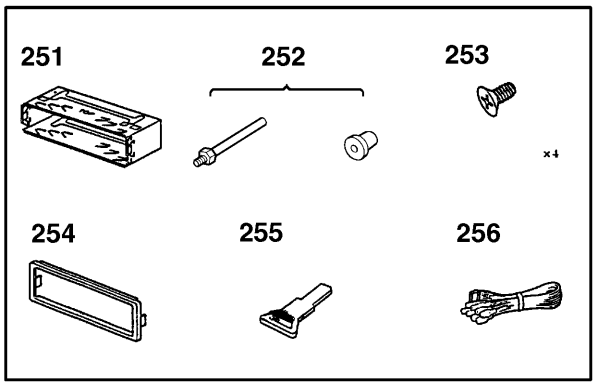
****
HARDWARE LIST
****

#1	7-685-792-09	SCREW +PTT 2.6X6 (S)
#2	7-685-793-09	SCREW +PTT 2.6X8 (S)
#3	7-621-772-10	SCREW +B 2X4
#4	7-685-106-19	SCREW +P 2X10 TYPE2 NON-SLIT
#5	7-627-850-28	SCREW,PRECISION +P 1.4X3
#6	7-627-000-00	SCREW,PRECISION +P1.7X2.2TYPE3
#7	7-628-253-00	SCREW +PS 2X4
#8	7-627-553-37	PRECISION SCREW +P 2X3 TYPE 3
#9	7-627-553-17	PRECISION SCREW +P 2X2 TYPE 3
#10	7-685-794-09	SCREW +PTT 2.6X10 (S)

****

PARTS FOR INSTALLATION AND CONNECTIONS
****

251	3-014-370-31	FRAME, FITTING
252	X-3366-405-1	SCREW ASSY (EXP), FITTING
253	3-934-325-01	SCREW (+K 5X8 TP)
254	X-3374-806-1	COLLAR ASSY
255	3-388-078-01	KEY
256	1-769-786-81	CORD (WITH CONNECTOR) (POWER)



Sony Corporation
Personal & Mobile Communication Company

9-926-443-11

99B097025-1
Printed in Singapore © 1999. 2
Published by Quality Assurance Dept.